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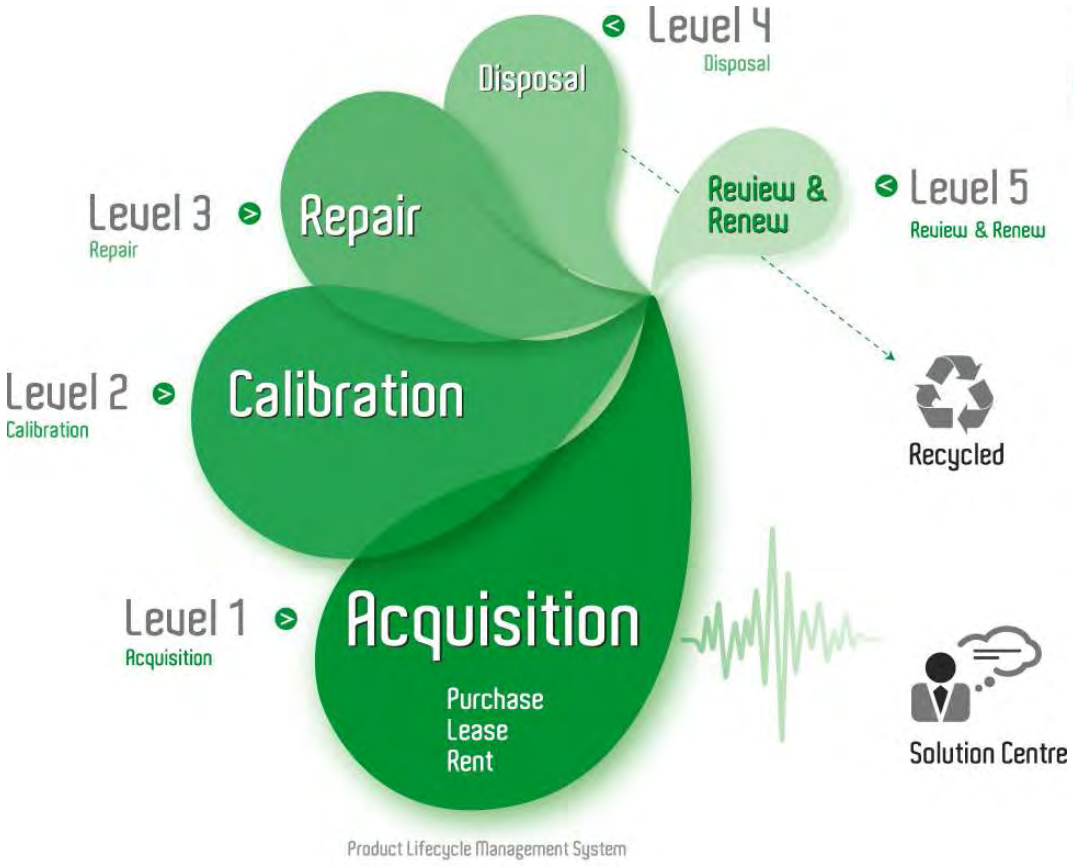

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JDSU 2000 Platform

Handheld, modular Platform designed for the construction, turn-up and maintenance of fiber networks

User Manual

JDSU

JDSU 2000 Platform

Handheld, modular Platform designed for the construction, turn-up and maintenance of FTTx networks

User Manual

JDSU

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Table of Contents

About This Guide xv

Purpose and scope xvi

Assumptions xvi

Technical assistance xvi

Conventions xvii

Chapter 1 **2000 Platform Overview** 1

Unpacking the instrument 2

About the 2000 Platform 2

Main features 3

Hard keys and Indicators 5

Front panel hard keys 5

Front panel indicators 6

Power Supply 7

Chapter 2 **Safety information** 9

Battery and AC/DC safety information 10

Precautions relating to optical connections 10

Laser Safety instructions 11

Laser classes 11
Warning labels for the laser classes 11

Chapter 3 Starting up 13

Fitting and removing a module 14
Fitting a module 14
Removing a module 14

Setting the adaptable plug to the mains adapter 15

Charging the battery 16
Connecting the mains adapter 16
First use of the battery 16
Charging the battery 16
Battery charging time 17
Battery charge level display 17

Switching the 2000 Platform on and off 17
Switching on the 2000 Platform 17
Switching off the 2000 Platform 18
Resetting the 2000 Platform 18

First start: configuring your regional settings 18

Chapter 4 Configuring the 2000 Platform 21

Displaying the System Settings screen 22

Defining the screen parameters of the 2000 Platform 23
Backlight 23
Contrast 23
Screen Saver 23

Defining the Audio parameters of the 2000 Platform 24

Defining the Automatic shutdown of the 2000 Platform . . 24

Chapter 5 Power meter, VFL (Visual Fault Locator) & Talkset 25

Connection to the power meter, VFL and Talkset 26

Using the Power meter 26
Configuring the power meter 26
Configuring measurement parameters 26
Configuring the alarm parameters of the power meter 28

Display of results and commands 28
Result of the measurement in progress. 28
Table of results. 28
Commands of the power meter parameters 29
Performing a measurement 30
Power measurement 30
Optical link loss 30

VFL Function 31
VFL connector. 31
Visual Fault Locator function (VFL) 31

Storing and reloading results 32
File Setup 32
Storing results 32
Loading results 32

Talkset Function 33
Talkset configuration 33
Connections 33
Establishing communication 33
Adjusting volume level 34
Disconnection 34

Chapter 6 Scope 35

Scope feature 36
Overview 36

Installation of tips 36

Configuring the P5000 Scope. 37
Scope connection 37
Configuring the Scope 37
Test 37
Report 38
Fiber 38
Adding a new profile 38

Starting up with the scope 39
Luminosity and Contrast settings. 39
Freeze mode. 40
Camera mode 40

Launching a test of the connector and fiber end-face. . . . 40
Launching a test of the connector and fiber end-face. 40
Mosaic Mode 42

Loading a picture 43

File menu 43
Saving the test result in a jpg file 43
Generating a report 43

Chapter 7 File management 45

File Explorer Overview 46

Directories and Files selections 46
Directory selection 46
Files selection 47

Directories & Files editing functions 47
Copy/Cut & Paste files/directories 47
Renaming a directory / file 48
Deleting a directory / file 48

Working with directories and files from the explorer. 48
Creating a directory 48
Opening files 49
File Types 49
Sorting files 50
Transferring files to a PC 50
Establishing connection 2000 Platform <-> PC 50
Transferring files onto the PC 52
Cancellng the connection 52
Sending files by Bluetooth 53
Setting up a Bluetooth connection 53
Transfering files via Bluetooth 54
Removing the Pairing 55

Creating a screenshot 55
Configuring the parameters of screenshots 55
Taking a screenshot 55
Name of the screenshots files 56

Creating a report. 56
Configuring the report 56
Creating the report 57
Name of the report 58

Merging pdf or txt files 58

Storage media. 59
Storage media built into the 2000 Platform 60

External USB storage media 60
USB memory stick connection 60
USB memory stick disconnection 60
Abbreviations for storage media 61

Chapter 8 Transferring the 2000 Platform Interface 63

Establishing connection 64
Connecting the 2000 Platform and the PC 64
Configuring the 2000 Platform 64

Transferring the Interface 66

Virtual control buttons bar 67

Equivalence between the keyboard and 2000 Platform . . . 67

Chapter 9 Technical specifications 69

Display specifications 70
Screen 70

Memory 70

Input/Output 70

Power supply 70
Battery 70
Mains adapters 71

Dimensions - Weight 71

Environment 72
Temperature 72
Humidity 72
Climatic pressure 72
EMI/ESD 72
Electrical Safety 72
Drop test 72
Shocks 72
Bumps 72
Vibration 73
Flammability 73

Characteristics of the options 73
Power meter option 73
VFL 73
Bluetooth Option 73

Chapter 10 Options and accessories 75

References of options for the 2000 Platform 76

References of accessories 76

References of manuals 77

References of result processing software 77

Chapter 11 Maintenance and Troubleshooting 79

Maintenance procedure 80

Cleaning 80

Cleaning plates and housings 80

Cleaning the screen 80

Cleaning the optical cable connector 81

Cleaning the optical connections of the 2000 Platform 81

Accessing to the 2000 Platform information 81

General page 81

Software options page 82

Services Data page 82

Accessing to the 2000 Platform documentation 83

Installing a new version of the software 84

Downloading from Internet 84

Installation from a USB memory stick 84

Installation from Ethernet 86

Upgrading from the boot 87

Install Option 88

Enter Manually the Licence 89

Import the license from the USB memory stick 89

Locking the 2000 Platform 90

Returning an instrument 92

Guarantee conditions 92

Recycling Information 92

Troubleshooting 92

Interpreting alarms 92

Formating the USB memory stick onto the 2000 Platform . . . 94

Erase disk 94

Touchscreen calibration 94

Changing the battery 95

Accessing to the damaged battery 95

Installing a new battery 96

General information on warranty 97
Hardware Warranty 97
Warranty disclaimer 98

Index **99**

About This Guide

The 2000 Platform of JDSU provides a handhled modular platform designed for the construction, turn-up and maintenance of fiber networks.

The topics discussed in this chapter are as follows:

– “Purpose and scope” on page xvi
– “Assumptions” on page xvi
– “Technical assistance” on page xvi
– “Conventions” on page xvii

Purpose and scope

The purpose of this guide is to help you successfully use the 2000 Platform features and capabilities. This guide includes task-based instructions that describe how to install, configure, use, and troubleshoot the 2000 Platform.

Additionally, this guide provides a complete description of JDSU's warranty, services, and repair information, including terms and conditions of the licensing agreement.

Assumptions

This guide is intended for novice, intermediate, and experienced users who want to use the 2000 Platform effectively and efficiently. We are assuming that you have basic computer and mouse/track ball experience and are familiar with basic telecommunication concepts and terminology.

Technical assistance

If you need assistance or have questions related to the use of this product, call or e-mail JDSU's Technical Assistance Center for customer support.

Table 1 Technical assistance centers

Region	Phone Number	
Americas Telecom Products	866 228 3762 World Wide: 301 353 1550	tac@jdsu.com
Europe, Africa, and Mid-East	+49 (0) 7121 86 1345 (Europe)	hotline.europe@jdsu.com
	+33 (0) 1 30 81 50 60 (JDSU France)	support.france@jdsu.com
Asia and the Pacific Southeast Asia, Australia, and New Zealand	+852 2892 0990 (Hong Kong)	
	+86 10 6833 7477 (Beijing-China)	
All others	866 228 3762	tac@jdsu.com

During off-hours, you can request assistance by doing one of the following:

– leave a voice mail message at the Technical Assistance number in your region
– e-mail North American Technical Assistance Center, tac@jdsu.com, or European Technical Assistance Center, support.uk@jdsu.com
– submit your question using our online Technical Assistance Request form at www.jdsu.com.

Conventions

This guide uses naming conventions and symbols, as described in the following tables.

Table 2 Typographical conventions

Description	Example
User interface actions appear in this **typeface**.	On the Status bar, click **Start**.
Buttons or switches that you press on a unit appear in this **TYPEFACE**.	Press the **ON** switch.
Code and output messages appear in this `typeface`.	`All results okay`
Text you must type exactly as shown appears in this **`typeface`**.	Type: **`a:\set.exe`** in the dialog box
Variables appear in this ***typeface***.	Type the new ***hostname***
Book references appear in this ***typeface***.	Refer to ***Newton's Telecom Dictionary***
A vertical bar | means "or": only one option can appear in a single command.	`platform [a|b|e]`
Square brackets [ ] indicate an optional argument.	`login [platform name]`
Slanted brackets < > group required arguments.	`<password>`

Table 3 Keyboard and menu conventions

Description	Example
A plus sign + indicates simultaneous keystrokes.	Press **Ctrl+s**
A comma indicates consecutive key strokes.	Press **Alt+f,s**
A slanted bracket indicates choosing a submenu from menu.	On the menu bar, click **Start > Program Files**.

Table 4 Symbol conventions

This symbol represents a general hazard.

This symbol represents a risk of electrical shock.

NOTE

This symbol represents a Note indicating related information or tip.

This symbol, located on the equipment or its packaging indicates that the equipment must not be disposed of in a landfill site or as municipal waste, and should be disposed of according to your national regulations.

Table 5 Safety definitions

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

2000 Platform Overview

1

This chapter provides a general description of the 2000 Platform.

Topics discussed in this chapter include the following:

– “Unpacking the instrument” on page 2
– “About the 2000 Platform” on page 2
– “Main features” on page 3
– “Hard keys and Indicators” on page 5
– “Power Supply” on page 7

Unpacking the instrument

1. Remove the 2000 Platform and its accessories from the packing case.
2. Check that the module and accessories ordered are all there.

If any part is missing or damaged please contact your local JDSU agent.

The 2000 Platform is delivered as standard with:

Table 1 Elements delivered on standard with the 2000 Platform

A Getting Started Manual
A Li-Polymer battery, set into the equipment and which must be charged before use
A mains adapter used for mains operation of the instrument and battery charging
5 country adaptable plugs (Europe / UK / US / Australia / Japan)
A hands-free soft case for the 2000 Platform
A USB cable, to directly connect the 2000 Platform to a PC
A shoulder strap

About the 2000 Platform

The architecture of the 2000 Platform is made of one Platform, to which a module can be added to perform tests on fiber networks.

The modules that can be fitted to the 2000 Platform are interchangebale in the field and different kinds of module are usable:

– OTDR Modules
– PON Selective Power Meter (OLP)
– CWDM Analyzer Modules (C-OSA)

The 2000 Platform employs multi-tasking for the simultaneous performance of several operations:

– acquisitions
– modifications of parameters
– trace analysis
– report management

It also allows to use simultaneously several functions:

– Power Meter
– Scope
– OTDR measurements...

Main features

The 2000 Platform is equipped with the following elements:

– A 5 inch TFT color touchscreen, high visibility
– RJ45 plug for Ethernet interface
– Two USB 2.0 host connectors for Microscope, USB memory stick, mouse, keyboard, ...
– One mini USB 2.0 device connector to connect the 2000 Platform to a PC
– An audio jack to connect a headset
– A connection socket for the mains adapter providing the 12 V power supply and used to charge the battery.
– LED indicators for Charge, On status and Test
– A Li-Polymer battery
– A module interchangeable in the field: OTDR, OLP, or C-OSA.
– Built-in Power Meter, VFL and/or Talkset (options)

With the 2000 Platform, the user can:

– Open and/or transfer files to a PC via a USB memory stick, USB cable or Bluetooth (option)
– Generate pdf reports
– Open all user documentations included into the 2000 Platform
– Update the 2000 Platform firmware
– Remote the screen of the 2000 Platform onto a PC and issue commands from the keyboard of the PC
– ...

Fig. 1 2000 Platform with module

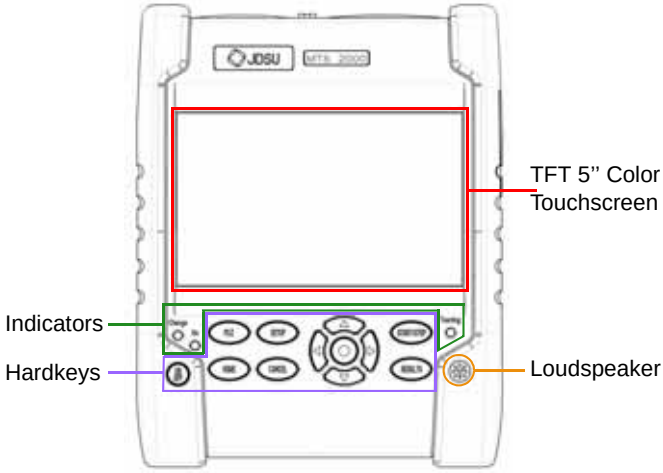


Fig. 2 2000 Platform: Front view

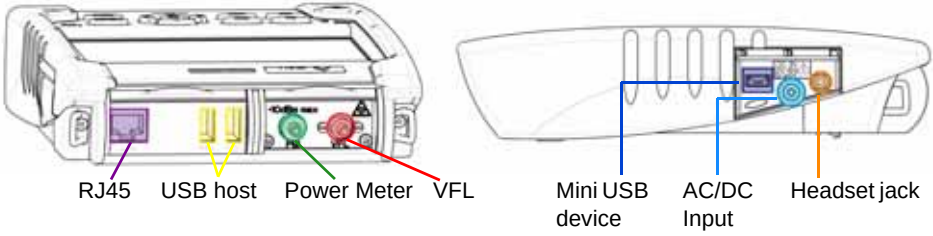


Fig. 3 2000 Platform: Connectors View

Hard keys and Indicators

Front panel hard keys

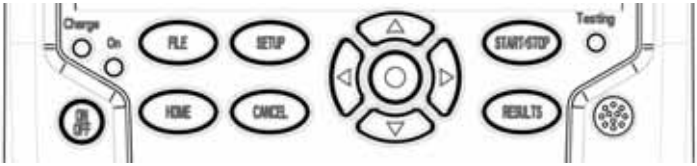


Fig. 4 Hard keys and Indicators

Table 2 Hard keys description

Hardkey	Function
	Main on/off switch
	This button calls up the file explorer. It allows to: – choose the storage medium: internal memory, USB memory key.. – manage files; with facilities for classifying them in directories and sub-directories.
	Gives access to: – selection of the different measurement or functions – the settings of the instrument – the help page
	This button calls up the measurement configuration menu. This menu depends on the function in use.
	This button allows to deselect a function or escape a menu
	Starts and stops the measurement.
	This button calls up the results page (e.g. with OTDR module: reflectometry trace and table of results).

NOTE

All these functions, except **HOME**, depend on the modules used and the measurements made: refer to the user manuals of the corresponding modules of the 2000 Platform.

The direction keys have two principal functions:

- on the Results page, they are used to move the cursors or modify the zoom factor.
- on the set-up pages, they are used to scroll through the menus, the central button serving to select or confirm the parameter chosen.

Front panel indicators

The 2000 Platform is equipped with three indicators, lit into a different color acccording to the status of the unit.

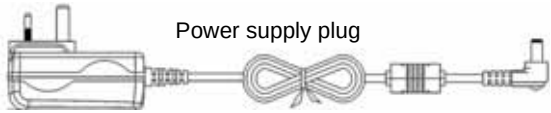
Table 3 Indicators Status

On indicator		
On	*Blicking green*	The instrument, though connected to an external power source, is switched off.
On	*Solid green*	The instrument is operating, either by battery or on an external power supply.
Charge indicator		
Charge	*Solid green*	The instrument is connected to an external power source and the battery is fully charged.
Charge	*Solid red*	The instrument is connected to an external power source, and the battery is on charge.
Testing indicator		
Testing	*Solid red*	At least one function is in measurement phase (for example, the laser emission pilot for an OTDR measurement)

Power Supply

The 2000 Platform may operate with

– the Li-Polymer battery, already set into the equipment on delivery.
– an AC adapter/charger, via a power cable on which has been set the correct country adaptable plug.



Interchangeable plugs

UK adaptable plug (installed by default)

EUROPE adaptable plug

US adaptable plug

JAPAN adaptable plug

AUSTRALIA adaptable plug

Fig. 5 Delivered elements for 2000 Platform supplying

Safety information

2

This chapter gives the main information on the safety conditions when using the 2000 Platform:

– “Battery and AC/DC safety information” on page 10
– “Precautions relating to optical connections” on page 10
– “Laser Safety instructions” on page 11

Battery and AC/DC safety information

– The Li-Polymer battery is designed for maximum safety.

In particular, each cell is provided with a safety valve to prevent excessive internal pressure in the event of overcharging or exposure to very high temperatures.

– Battery supplied by JDSU incorporate protection means.

Do not use any mains adaptor or battery other than those supplied with the instrument, or supplied by JDSU as an option for this instrument.

If another adapter or battery is used, it may damage the 2000 Platform itself.
Using the 2000 Platform with a battery other than the one supplied by the manufacturer of the 2000 Platform may entail risks of fire or explosion.

The battery may explode, leak or catch fire:

– if it is exposed to high temperature or fire
– if it is opened or dismantled.

Other basic safety precautions are as follows:

– Do not use AC/Adapter/Charger outdoors or in wet or damp locations
– Connect the AC/Adapter/Charger to the correct mains voltage, as indicated on the ratings label.
– Do not allow anything to rest on the power cord, and do not locate the product where people can walk on the power cord.
– Avoid using this product during an electrical storm. There may be a remote risk of electric chock from lightning.
– Do not use this product in the vicinity of a gas leak or in any explosive environment.
– Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous, high voltage points and other hazards. Contact qualified service personnel for all service.

Precautions relating to optical connections

– The normal operating life of an optical connector is usually of the order of a few hundred manipulations. It is then advisable to manipulate the optical connections of the Platform as rarely as possible.
– The proper operation of the instrument and its accuracy of measure-

ment are dependent on the cleanliness of the environment and the optical connectors as well as the care taken in its manipulation.

– The optical connectors must therefore be clean and dust-free. If the optical connection is not being used, protect the connections of 2000 Platform using the protective caps.

Laser Safety instructions

The provisions contained in two standards define the safety procedures to be observed both by users and by manufacturers when utilizing laser products:

– EN 60825-1: 2001 - Safety of laser products – Part 1: Classification of products, requirements and user guidelines.

– FDA 21 CFR § 1040.10 - Performance standards for light-emitting products - Laser products.

Due to the range of possible wavelengths, power values and injection characteristics of a laser beam, the risks inherent in its usage vary. The laser classes form groups representing different safety thresholds.

Laser classes

Standards EN 60825-1, Edition 1.2, 2001-08 and FDA21CFR§1040.10:

– VFL option: Class 2.

Warning labels for the laser classes

Due to the reduced dimensions of the optical modules, it is not possible to attach the required warning labels to them. In line with the provisions of Article 5.1 of the EN 60825-1 standard, the laser class identification labels are shown below:

Reference standard	EN 60825-1, Edition 1.2, 2001-08	FDA21CFR§1040.10
Class 1	CLASS 1 LASER PRODUCT	
Class 2	LASER RADIATION DO NOT STARE INTO BEAM CLASS 2 LASER PRODUCT	CAUTION LASER RADIATION - DO NOT STARE INTO BEAM CLASS II LASER PRODUCT

The user must take the necessary precautions concerning the optical output of the instrument and follow the manufacturer's instructions.

Measurements on optical fibers are difficult to execute and the precision of the results obtained depends largely on the precautions taken by the user.

Starting up

3

This chapter describes the first steps to perform when using the 2000 Platform.

The topics discussed in this chapter are as follows:

– “Fitting and removing a module” on page 14
– “Setting the adaptable plug to the mains adapter” on page 15
– “Charging the battery” on page 16
– “Switching the 2000 Platform on and off” on page 17
– “First start: configuring your regional settings” on page 18

Fitting and removing a module

The 2000 Platform must be switched off, and if it is operating on the mains, its supply cable must be unplugged.

Fitting a module

1. Turn the instrument face down on the work surface.
2. Set the two notches on the module part **(1a)** into the two holes provided for that purpose on the Base **(1b)**.
3. Make flush the 2 connections **(2a & 2b)**, on module and base.
4. Once positioned, fix the module to the base screwing the 2 screws **(3a)** fixing the receptacle.

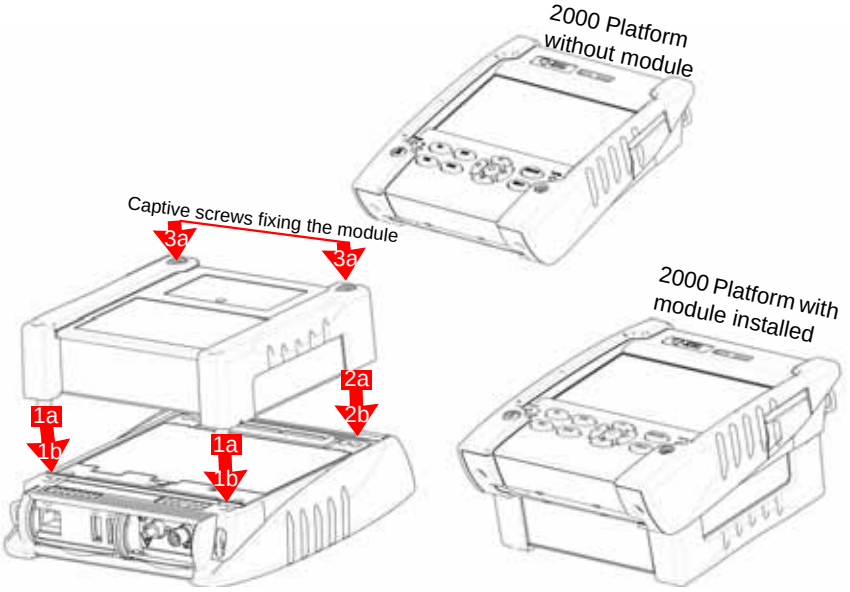


Fig. 6 Fixing the module to the base

Removing a module

1. Unscrew the two captive fixing screws of the module completely (up to the stop).
2. Remove the two slots of the module from their housing onto the base.
3. Carefully remove the module out of its slot.

Setting the adaptable plug to the mains adapter

The 2000 Platform is supplied as standard with a mains adapter and 5 country adaptable plugs (Europe / UK / US / Australia/Japan).

To set the correct plug to the mains adapter:

1 Make flush the connector onto the mains adapter with the adaptable plug slots.

2 Push the adaptable plug until it stops.

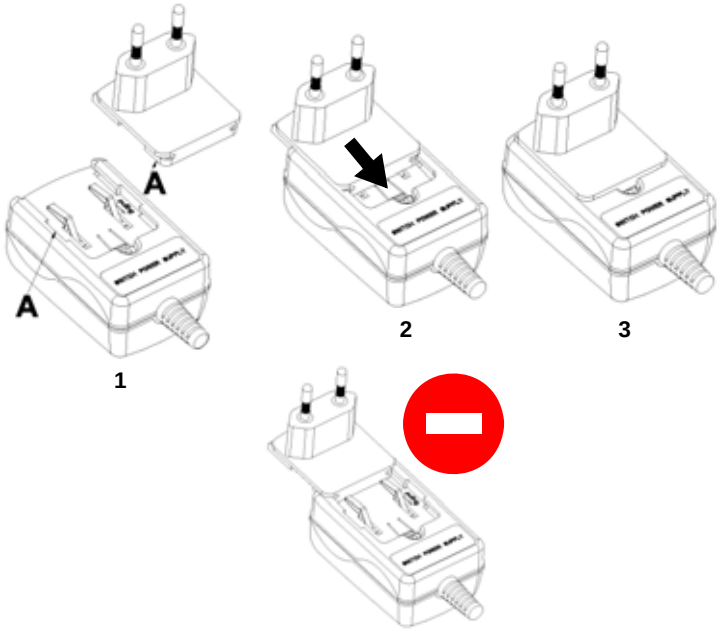


Fig. 7 Setting the adaptable plug onto the mains adapter

If the adapter plug is not correctly set onto the mains adapter, the connector may be damaged.

Charging the battery

Connecting the mains adapter

1. Set the appropriate adaptable plug to the power supply cable, according to your country (see page 15).
2. At the right side of the 2000 Platform, lift up the power supply socket protector and plug in the mains adapter.
3. Connect the adapter to the mains.

   The **On** indicator lamp starts to blink in green.

Use only the mains adapter supplied with the 2000 Platform. The adapter for some other electronic device may appear to be identical, but entails a risk of damage to the 2000 Platform.

First use of the battery

At the delivery, the battery is already set into the Platform, but its charge level is not «recognized» by the equipment.

The icon is displayed on the upper banner of the screen.

To get a valid indication of the battery, and be able to use correctly the Platform:

1. Charge fully the battery
2. Once fully charged, discharge the battery by keeping the Platform switched on, but not plugged to mains.
3. The battery can then be charged, and the Platform used simultaneously.

Charging the battery

On connection to the mains:

– if the user does not press **ON**, the battery will start the charge. In this case, the **Charge** indicator will be lit in red.

– when the user presses the **ON** key, the instrument starts up and the battery will charge during use (**Charge** indicator in solid red).

Once the battery is fully charged, the **Charge** indicator is lit in solid green.

When the **Charge** indicator is blinking red, this mean the power supply is not compatible with the battery used. Charge is disabled.

It is essential to wait until charging is complete to ensure maximum independent operating time, which may otherwise be considerably reduced.

Battery charging time

If the battery is completely discharged, the time taken to recharge is:

– approximately 3.5 hours, if the apparatus is not in use (**Charge** indicator solid red)

– about 9.5 hours if the instrument is used during charging (**On** indicator lit in fix green, **Charge** indicator lit in solid red).

Battery charge level display

When the battery is installed in the instrument, a battery icon is displayed in the top right-hand corner of the screen. Example: .

Table 4 Battery icons

	The battery capacity is superior to 75%
	The battery capacity is set between 50% and 75%
	The battery capacity is set between 25% and 50%
	The battery capacity is inferior to 25%
	The battery capacity is unknown. Perform a full charge/discharge of the battery to get back to a valid indication. This icon may appear if battery is changed or if the battery auto discharges at a very low level (example: if a Platform switches off as battery is empty, and the charge is not done during several months (= auto discharge)).

– When the level becomes too low, the instrument emits a beep ton inform the user until it switches off automatically after saving the current configuration and measurement.

Switching the 2000 Platform on and off

Switching on the 2000 Platform

1 Press the **ON/OFF** key.

If the Platform is powered to mains, the battery will charge.

The **On** indicator pass from blinking to solid green.

The JDSU logo appears on the screen briefly, then an autotest is carried out.

The equipment is ready to be used once all the applications are installed.

NOTE

It is possible to switch over from battery to mains operation, or vice versa, without loss of data.

The module cannot be swapped when the unit is ON or AC powered

In the event of an unexpected mains power cut, if there is no battery, the current results and configuration will not be saved. Next time the instrument is switched on, it will return to its initial configuration.

Switching off the 2000 Platform

While the 2000 Platform is operating, press the **ON/OFF** button to switch it off.

NOTE

When the instrument is switched off using the **ON/OFF** button, current results and configuration are saved. Next time the **ON/OFF** key is pressed, they are recalled.

Resetting the 2000 Platform

If the 2000 Platform freezes, prolonged pressure (about 4 s.) on the **ON/OFF** key will reset the instrument.

First start: configuring your regional settings

Once the 2000 Platform is switched on, the first screen displayed allows to configure the regional settings.

Those settings will be kept in memory and automatically applied on the instrument each time it is restarted.

Fig. 8 Regional Settings

1 Click on **Language** and select the language to be used for the equipment.

2 Click on **Date** and enter the current date, using the numeric keypad displayed using the menu key **Edit Number**.

3 Click on **Time** and enter the current time, using the numeric keypad displayed using the menu key **Edit Number**.

The date and time are displayed on the upper right side of the screen.

4 Click on **Date Time Format** and configure the following parameters:

– **Date format**: select one of the option **dd/mm/yy** or **mm/dd/yy**.

– **Time format**: select one of the option **24 hour clock** or **12 hour clock.**

5 Once all parameters have been defined, press **Exit** menu key.S to reach the **System Settings** page.

Configuring the 2000 Platform

4

This chapter describes the operations for configuring the instrument.

The topics discussed in this chapter are as follows:

– “Displaying the System Settings screen” on page 22
– “Defining the screen parameters of the 2000 Platform” on page 23
– “Defining the Audio parameters of the 2000 Platform” on page 24
– “Defining the Automatic shutdown of the 2000 Platform” on page 24

Displaying the System Settings screen

To display the **System Settings** screen, you must:

1 Press the **HOME** hard key to reach the **Home** page.

Fig. 9 Home page

2 Activate the **Settings** icon

to open the **System Settings** screen.

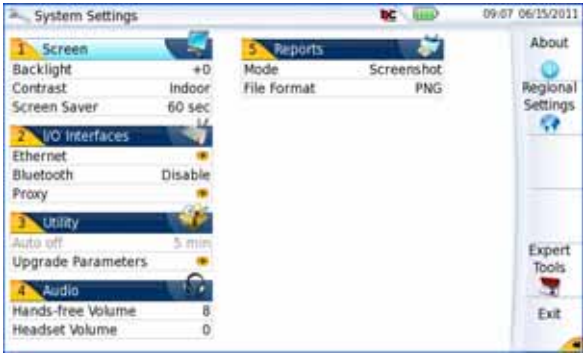


Fig. 10 System Settings page

NOTE

If you are in the Regional Settings page, and you press **Exit**, then the **System Settings** page automatically displays.

Defining the screen parameters of the 2000 Platform

In the **System Settings** page, the following parameters can be defined:

Backlight

1 Click on **Backlight**

2 Define the backlight level of the screen, using the left and right direction keys, or clicking on **Edit Number** softkey and using the keypad displayed.

- Min backlight level: -5
- Max backlight level: +5

If the 2000 Platform is operating on battery, it is advisable to choose a minimum lighting level, acceptable for the user, to keep endurance as long as possible.

Contrast

1 Click on **Contrast**

2 Select the type of environment into which the instrument is used:

- **Indoor**: to be selected when the instrument is used inside (see Figure 10 on page 22)
- **Outdoor**: to be selected in order to optimize the readability of the screen for an outside use.

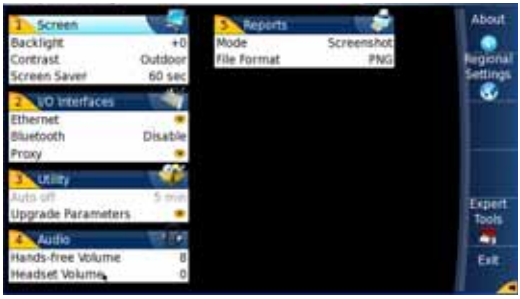


Fig. 11 Example of outdoor contrast

Screen Saver

Click on **Screen Save** if you wish to activate a screen saver to the equipment, to extend the life of the battery, in case the 2000 Platform is not used for some time.

Instead of the normal screen, a small animated picture of the 2000 Platform is displayed on the blackened screen.

To configure the screen saver:

1 Click on **Delay** and select the time of inactivity before the screen saver starts: **60s**, **3 min**, **5 min**.

The parameter **No** deactivates the screen saver function.

Defining the Audio parameters of the 2000 Platform

In the **Audio** box of the **System Settings** screen, you can configure the audio parameters according you are using a headset with the 2000 Platform.

1 Adjust the volume on the line **Hands-free Volume** using the left and right direction keys, or the Numeric keypad (displayed with the softkey **Edit Number**)

- Min volume for Hands-free function: 0
- Max volume for Hands-free function: 100

2 If a headset is used, adjust the volume on the line **Headset Volume**, using the left and right direction keys, or the Numeric keypad (displayed with the softkey **Edit Number**):

- Min volume for Headset function: 0
- Maxvolume for Headset function: 100

Defining the Automatic shutdown of the 2000 Platform

The automatic shutdown function switches off the 2000 Platform automatically if no operation has been performed and no key actuated for a period selected from this menu. Work in progress is automatically saved.

The function for automatically switching off the 2000 Platform is available only on battery operation, to save the battery.

1 In the **Utility** box, click on **Auto off** parameter.

2 Choose a time after which the 2000 Platform will be switched off automatically, if no action has been done for that period: **5**, **10** or **30 minutes**.

Select **No** if the 2000 Platform must not be switched off, even if there is inactivity on the equipment.

Power meter, VFL (Visual Fault Locator) & Talkset

5

A variety of built-in optical options are available when ordering. See references in Chapter 10 “Options and accessories”, for details.

The topics discussed in this chapter are as follows:

– “Connection to the power meter, VFL and Talkset” on page 26
– “Using the Power meter” on page 26
– “VFL Function” on page 31
– “Storing and reloading results” on page 32
– “Talkset Function” on page 33

Connection to the power meter, VFL and Talkset

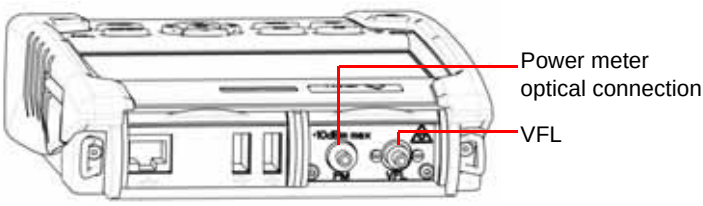


Fig. 12 Optical connectors

The type of optical connector used for the power meter is UPP (Universal Push Pull), which is compatible with all diameter 2.5 mm connectors (FC, SC, ST, DIN, E2000, etc.)

Accuracy of measurements

A high degree of accuracy is often required. It is then necessary to perform a preliminary calibration without the fiber under test to eliminate the losses due to connections as far as this is possible. To do this, use the «Reference Value» function.

Using the Power meter

The power meter function is an option chosen at the time of order and incorporated into the 2000 Platform in the factory.

To activate the function:

1 Press the **HOME** button

2 Activate the power meter icon of the Platform

.

The effect of this action will to be to bring the power meter into use and to display the Results page for Power Meter.

Configuring the power meter

Configuring measurement parameters

The measurement parameters can be accessed with the **SETUP** key.

Fig. 13 Configuration of power measurement

Wavelength — Selecting wavelength:
- Auto: the wavelength of the input signal will be automatically detected and selected to perform the measurement:
850, 980, 1300, 1310, 1420, 1450, 1480, 1490, 1510, 1550 or 1625 nm: measurement performed at specified wavelength.
- User: choice of wavelength on the next line

User choice — (if the **User** option was selected in the **Lambda** line) enter the wavelength between 800 and 1650 nm, using the numeric keypad, displayed via the **Edit Value** key..

Beep on Modulation — Select if a sound must be heard when a modulation occurs (Yes / No)

Unit — Unit of power displayed:

- Watt, dBm for displaying absolute power

- dB for displaying a result relative to a reference (link loss)

Reference level — If dB units were chosen in the previous line, selection of the reference value for the wavelength selected. First select the wavelength, then press the > key to access choice of the value (+XXX.XX).

This reference is also automatically available, in the **Results** page, using the **Set as Reference** key.

Attenuator compensation

Choice of level to be applied to the wavelength chosen for measurement to compensate for the loss due to the external attenuator (+XX.XX dB). First use the direction keys to choose the

wavelength, then press > to access choice of value.

NOTE

To copy a Reference Level or a Attenuator Compensator on all wavelengths, select the reference wavelength and click on **Update for All Wavel.**.

Configuring the alarm parameters of the power meter

Alarm

Activation of the Alarm function : any result below the lower threshold or above the upper threshold will be displayed in red on the **Results** page.

Min and max thresholds :

Choice of lower and upper thresholds for each available wavelength, from -60 to +40 dBm (selected with the direction keys).

NOTE

To copy one value of the Lower or/and Upper threshold for all wavelengths, select the reference value and click on **Update for All Wavel.**.

NOTE

A continuous push on direction keys increments the value by 10 dBm.

Display of results and commands

The results page called up by the **RESULTS** button**,** gives the information relating to the measurement in progress, results previously saved and the commands available for measurement and saving.

Result of the measurement in progress

The power measured by the power meter is displayed in large characters, in the units selected in the **SETUP** menu, together with:

- the mode of transmission of the signal measured: continuous (CW) or modulated to a frequency of 270Hz, 330Hz, 1KHz, or 2KHz.
- the wavelength of the signal measured.
- the reference level expressed in dB.
- the level of Attenuation Compensation.

Table of results

For one and the same fiber, the power meter displays a table of 9 results corresponding to the different possible wavelengths. The first 4 results are displayed on the screen; to scroll through the other results, use the

direction key ▼. The table shows the power measured in dBm, the relative power (in dB) and the reference level in dBm (if units = dB), together with the mode.

– A measurement result is displayed in the table when the **Keep Result** softkey is pressed.
– The **Clear Table** softkey orders deletion of all the results displayed in the table.
– If the Alarm function has been activated, any result that exceeds the selected thresholds appears in red in the table. Otherwise, results are shown in the table in green.
– When the instrument is switched off, results present in the table are saved.

Fig. 14 Results and commands of the power meter

Commands of the power meter parameters

When the LTS function is selected, the following softkeys are available on the results page:

Keep Result Saves the result on the corresponding line of the table.

Clear Table Deletes all the results recorded in the table.

Pressing the **Powermeter Config.** key allows to reach the following function:

Wavelength Allows to modify the wavelength to be applied with the Power meter.

Unit Allows to modify the unit of power displayed (dB, dBm, nW)

Zero Adjustment of the Zero value when the power meter's optical input is closed with a plug (a validation is required).

Click on **Exit** to go back to the **Results** page.

Pressing the **Pow. Reference** key allows to reach the following function:

Standard Reference Selects the current result as reference value to measure the attenuation of a link. This reference is displayed under the measurement result until a new reference value is chosen.

Jumper Reference This key can be pressed when a reference in loopback mode must be performed (see 2100 Module Series User Manual).

The soft key Jumper Ref is displayed in grey and cannot be activated if both power meter and Source are selected onto the OTDR Module set into the Platform.
The power meter must be selected onto the Base-Unit, and the Source onto the OTDR Module to activate the soft key and be able to perform a reference measurement in loopback mode.

Performing a measurement

The power meter is started up as soon as the function

is activated in the **HOME** menu.

Power measurement is automatically updated in consequence. The value «<-60 dB» is displayed when the laser is switched off and if the source output is looped on to the power meter input.

Power measurement

1. Connect the light source to be tested to the rear connector (see "Connection to the power meter, VFL and Talkset" page 26).
2. In the **SETUP** menu, choose the units dBm, dB or Watts.
3. Press the **START/STOP** key to start the measurement**.**

   The result will appear in the results page and can be memorized in the table (see "Table of results" page 28).
4. Press the **START/STOP** key to stop the measurement.

Optical link loss

Setting the zero value of the power meter

It is important to set the zero of the power meter before making any measurements where accuracy is required, as the noise from the germanium photodiode fluctuates over time and with variations in temperature.

1. Fix the plug over the optical input of the power meter so that no light can reach the photodiode of the power meter. If the zero adjustment is made without this plug, an error message may be displayed, as the photodiode will detect too much light.

2 In the **Results** page, press the **Powermeter Config.** > **Zero** soft key and validate.

Carrying out the reference measurement

1 Fix the adapter corresponding to the jumper to the optical connector of the power meter.

2 Connect the jumper between the input of the power meter and the output of the source.

3 Configure the same wavelength on the source and the power meter.

The power measured is displayed in the results page of the power meter.

4 Press the **Pow Reference** > **Standard Ref** soft keys to save the result displayed as reference value.

Measurements on the fiber under test

After defining the reference value, proceed as follows to make the measurement:

1 Fix the jumpers and connectors needed to connect the fiber to be tested between the source output and the power meter input.

2 In the set-up menu, select dB units.

3 The power displayed in the Power Meter window corresponds to the optical loss of the link tested. It can be displayed in the table (see "Table of results" page 28).

VFL Function

VFL connector

The type of optical connector used for the VFL source is UPP (Universal Push Pull), which is compatible with all diameter 2.5 mm connectors (FC, SC, ST, DIN, E2000, etc.)

See Figure 12 on page 26 to visualize the VFL connector.

Visual Fault Locator function (VFL)

This function is used to emit a red light signal of frequency 1 Hz or in continuous mode into a fiber to detect any defects in the dead zone of the reflectometer, or to identify it.

This function is suitable for short fibers (length < 5 km) or the first few metres of a long fiber.

NOTE

Identification is facilitated by the blinking of light in the fiber.

To emit a light signal into a fiber:

1 Connect the fiber to the VFL port on the connectors panel.

2 Press the **HOME** key and activate the VFL

The icons display on the upper banner of the screen.

The signal mode of the VFL can be modified in the **System Settings** page, in **Utility** > **VFL Mode** parameter.

Storing and reloading results

File Setup

Click on the button **FILE** to access the **File** setup. See the chapter «File management» in the user manual «2100 modules series» for a complete description of all parameters, options and description of the explorer.

Storing results

In order to save the results of a measurement, click on **FILE** and select **Store trace**. Two files are being saved :

– The first file is used with the 2000 Platform and allows to retrieve all measurement results. It is saved with the extension «.Lts».

– The second file is a ASCII file using tabulations to separate values. It is saved with the extension «.txt» and can be opened by the 2000 Platform. It has been designed to be used with a spreadsheet program on a PC where it allows to retrieve all measurement results and format them in a nice customized table.

Loading results

In order to load the results of a measurement, select a file

with the extension «.Lts» in the file explorer (see the chapter «File management» in the user manual for «2100 modules series»), click on **Load** then **Confirm Load**.
The LTS tab is displayed with the loaded results in the table

Talkset Function

The Talkset option enables two operators at opposite ends of an optical link to communicate along the fiber. Each end of the optical link must be provided with a 2000 Platform equipped with the Talkset option.

NOTE

It is possible to use the talkset of the 2000 Platform and to carry out measurements at the same time, on a different fiber.

Talkset configuration

The talkset configuration is set in the **System Settings** screen, in the **Channel** box (see "Defining the Audio parameters of the 2000 Platform" page 24)

Connections

At each end of the fiber:

1 Connect the fiber to the Talkset port of the 2000 Platform, either directly or through jumpers.

JDSU recommends you to use the following connections:

- PC Fiber Connection (APC is not recommended)
- SC or FC connection (UPP is supplied but not recommended).

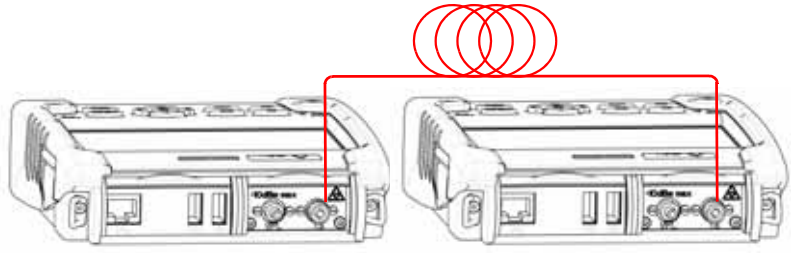


Fig. 15 Installation for Talkset use

2 A headset (with earphones and a microphone) supplied with the option may also be plugged into the 2000 Audio jack.

Establishing communication

On the caller 2000 Platform, press the **HOME** button, then validate the **Talkset** option:

– If the remote instrument is ready to receive (on standby), the Talkset icon turns orange, beeps are emitted, and the icon appears at the top of the screen: telephone communication can now take place.
– If the remote instrument is not ready to receive, the Talkset icon does not change color and a message is emitted.

NOTE

The talkset icon is displayed on the top banner as long as communication remains established, letting the user know that the connection is working.
When communication is established, the headset is automatically enabled if plugged in. However, the loud speaker must be correctly configured in the setup menu to work accordingly

Adjusting volume level

The sound is transmitted to the earphones of the headset and, if this function has been activated, to the speaker in the 2000 Platform base. To activate the base loudspeaker and adjust the volume:

1 Press the **HOME** key.
2 Validate **Settings** icon to reach the **System Settings** page.
3 Under the **Audio** box, select **Headset Volume** and adjust the volume.

Disconnection

When communication is over, deactivate the **Talkset** function on the 2000 Platform. This deactivation can be done by either 2000 Platform.

Then, the fiber used for Talkset, can be disconnected from each Platform safely.

Scope

6

The scope function is a hot-plug feature enabled directly when inserting a JDSU scope supplied as an accessory (see "References of accessories" page 76).

The topics discussed in this chapter are as follows:

– "Scope feature" page 36
– "Installation of tips" page 36
– "Configuring the P5000 Scope" page 37
– "Starting up with the scope" page 39
– "Launching a test of the connector and fiber end-face" page 40
– "File menu" page 43

Scope feature

Overview

This feature enables you to verify that your optical connectors are in perfect shape and very clean condition.

The P5000 Digital Probe Microscope is a portable handheld microscope used to view and inspect both the bulkhead (female) and patch cord (male) sides of fiber connectors as well as other optical devices, such as transceivers.

The P5000 requires an FBPT inspection tip and is connected to the 2000 Platform with a USB 2.0 connector.

Fig. 16 P5000 Probe components

Installation of tips

The Pass/Fail analysis function on the 2000 Platform can only be used with certain inspection tips mounted on the P5000.

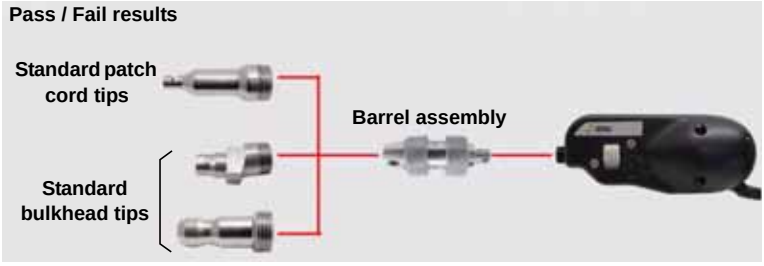


Fig. 17 Use of tips

Configuring the P5000 Scope

Scope connection

1. Plug in your JDSU scope into a USB port from the 2000 Platform.
2. Push the button **HOME**
3. Validate the **Scope** function

.
4. Connect probe with the fiber being inspected.

You may select this option while other options are already selected (e.g. OTDR).

Configuring the Scope

1. Press **Setup** key to configure the test.

The following screen displays:

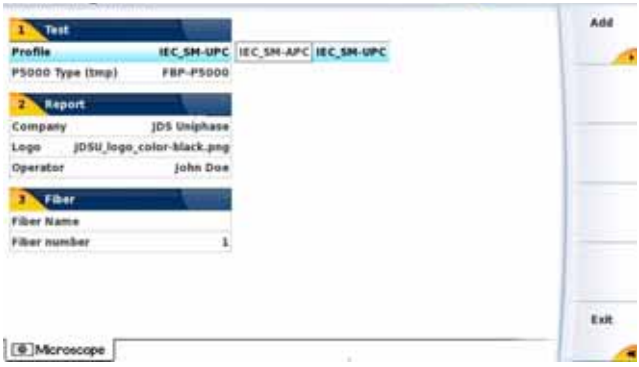


Fig. 18 P5000 Scope Setup

Test On the line **Profile**, select the Profile which will be used for the test of fiber connector:

- IEC SM-UPC: Pass/Fail criteria for single-mode UPC connectors from IEC 61300-3-35 standard.
- IEC SM-APC: Pass/Fail criteria for single-mode APC connectors from IEC 61300-3-35 standard.

Profiles contain the analysis parameters by which PASS/FAIL criteria are determined.

Once the line is selected, you can also add a new profile, clicking on the **Add** Button (see "Adding a new profile" page 38).

Report The parameters in **Report** box allow to configure the Report page setup.

On the line **Company**, enter the name of your company using the edition keypad.

On the line **Logo**, you can select an image on the 2000 Explorer once clicking on the right arrow key, which will be displayed on the upper left part of the report. Press the **SETUP** key to return back to the **Setup** page.

On the line **Operator**, you can enter the name of the operator, which will be displayed on the header of the report.

See Figure 22 on page 44 for a description of the pdf report.

Fiber The **Fiber** box allows to configure the fiber plugged to the scope.

On the line **Fiber Name**, use the edition keypad, which will display by clicking on the right arrow key, to enter a specific name for the fiber.

On the line **Fiber Number**, use the numeric keypad, which will display by clicking on the right arrow key, to enter the fiber number.

Press **Exit** to return to the Results screen of the scope.

Adding a new profile

Once the **Setup** screen of the scope is displayed, you can add a specific profile which will be used for the test.

The profile must be created via FiberChek2^{TM}, and stored on one storage media of the MTS/T-BERD 2000 (disk, or USB memory stick).

1. On the **Setup** screen, select **Profile** and press **Add** key.
2. On the explorer, select the file which will be used as profile (icon ; extension: .PRO)
3. Press **Load**.

   Once loaded, the display goes back automatically to Setup screen.
4. Select the profile just loaded.

Removing a profile

1. In the **Profile** list, select the profile to be deleted.
2. Press **Remove** key., then **Exit**.

Starting up with the scope

Once the FiberScope icon is validated:

1 Press **RESULTS** hard key

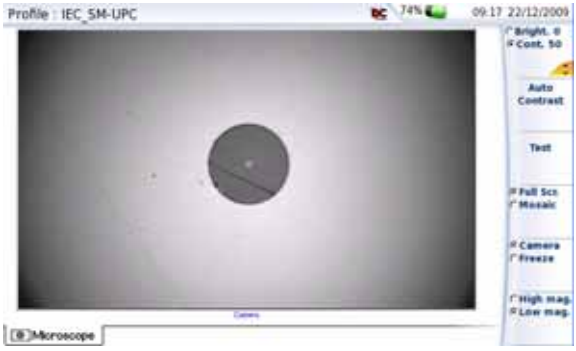


Fig. 19 Example of the result using the P5000 scope

Luminosity and Contrast settings

Luminosity and contrast may be set manually by using the key **Bright/Cont.**. Once you select which parameter you wish to modify, use the arrow keys ▲ and ▼ to tune the luminosity or contrast to the desired value. Note that the set values are displayed on the key.

You may also choose to use the function **Auto Contrast** in order to get settings calculated automatically by the instrument.

NOTE

Saturated parts of the picture appear in yellow. Modify the luminosity and contrast settings or use **Auto contrast** to modify the actual setting and remove saturation.

Auto Contrast must be used with a pristine (perfectly clean, undamaged) fiber connector. Changing the brightness or contrast settings can significantly change the fiber inspection test result.

Freeze mode

Once the image is acceptable (sharpness, luminosity and contrast are tuned correctly), you may **freeze** the picture. This feature allows to store in memory the resulting picture.

Freezing a scope result does not store the picture in a file (see "File menu" page 43). The result will be lost if the instrument is shut off, or if more than 3 pictures are frozen (see "Mosaic Mode" page 42).

NOTE

The button set on the lead, or the QuickCapture™ on the P5000 allows to freeze the picture or to take a snapshot.

Adding a comment

A key **Comment** allows you to enter/modify a comment to your picture if necessary. This comment appears at the bottom left of the picture.

The right bottom of the frozen picture also contains the date of the acquisition (where the picture was frozen).

NOTE

Both the comment and the date will be saved with the picture.

Camera mode

Set the key **Camera/Freeze** on **Camera**, to get a live picture of the scope result.

Use the focus control to adjust the focus of the image

Launching a test of the connector and fiber end-face

Launching a test of the connector and fiber end-face

Once the Brightness and Contrast parameters are correctly defined for the current image (see "Luminosity and Contrast settings" page 39), a test of fiber connector can be launched.

The **High mag./Low mag.** key allows to display the picture with a high or low magnitude.

To launch the test:

1 Press **Test** key to launch the test of plugged fiber connector.

The test is completed:

– once the Led **Testing** is no more lit in red
– once the icon is no more displayed on the upper banner
– once a screen as the following one displays:

NOTE

To configure the Pass/Fail critera, refer to “Configuring the Scope” on page 37.

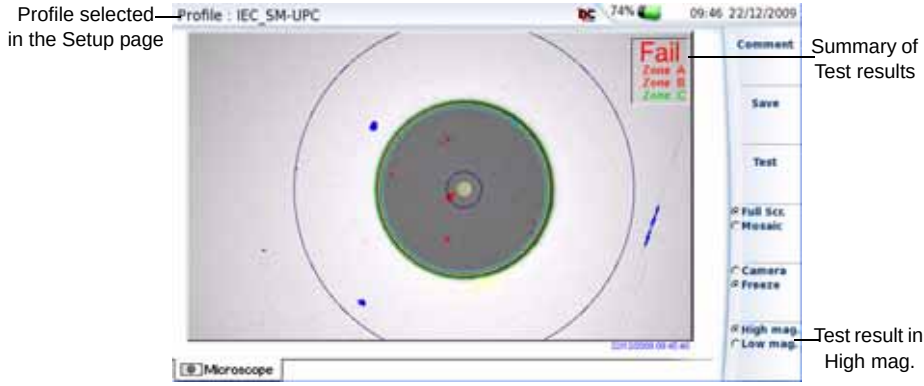
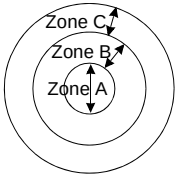


Fig. 20 Test results

A summary of test results is displayed on the right, upper part of the screen.

– Zone A: represents the Core zone: it is the area surrounding the core
– Zone B: represents the Cladding zone. It surrounds the majority of the fiber cladding.
– Zone C: represents the Ferrule zone: it identifies a portion of the ferrule near and around the fiber



NOTE

To return to a Live Camera image, press the **Camera/Freeze** key; or press the **Full Screen/Mosaic** key view both the live image and a test result simultaneously.

In **Mosaic** mode (see "Mosaic Mode" page 42), the result of the test only displays Pass or Fail information; the status of each zone is displayed only in full screen mode.

Mosaic Mode

It is possible to display only one picture in full screen (640 * 390 pixels) or up to four pictures (320*180 pixels each, including the live camera picture) in mosaic mode. Use the key **Full scr./Mosaic** to switch from one mode to another.

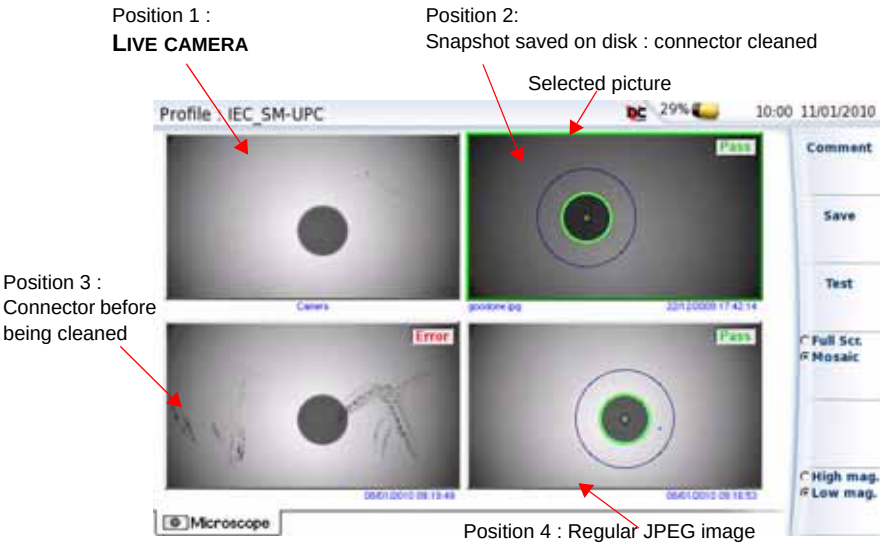


Fig. 21 Mosaic mode

– You may select one of the pictures by clicking on it.

The selected picture is framed in green.

The toolbar on the right varies according to which picture is selected (camera, or static picture):

Picture selected: Camera

All the Contrast and Luminosity settings are available just like in full screen.

Snapshot The live picture from the camera is frozen but does not replace the live picture at position 1. The new snapshot is placed at the second position, and all existing pictures are pushed to the next position.

If all positions were taken, the picture that was once at the fourth position is unloaded from memory. Frozen pictures and snapshots are lost, unless they were saved on the internal memory.

Loading a picture

It is possible to retrieve and load a picture stored in the Scope directory and display it in the Scope page.

1. Press the **FILE** button.
2. Select **Load**.
3. Select the JPEG file to be loaded via the Explorer
4. Click on **Load >Confirm Load**

Recognized pictures are images resulting from the Scope option and saved on disk via the 2000 Platform.

Some pictures resulting from the Scope option may appear nevertheless unrecognized, if they have been stored with a different Scope application, or if the JPG file has been opened and modified under another JPG editor.

Even though the JPG editor of the Scope function has been designed to display Scope pictures in black & white, it is also possible to open any JPG valid file and display in color the corresponding picture. That picture is enlarged or shrunk to the size of the display (full screen or mosaic, see."Mosaic Mode" page 42).

File menu

Saving the test result in a jpg file

Once the test has been performed, and the result is displayed on the 2000 Platform screen:

1. Press **FILE** key
2. Click on **Save** key to save a jpg file of the test result on the disk of the 2000 Platform.
3. On the edition keypad, enter the name of the jpg file
4. Press **Enter** to validate.

   The file is automatically saved on the disk, in the directory **Scope** (icon).

Generating a report

1. Check the correct test result is selected (framed in green in mosaic mode)..
2. Press the **FILE** button, then the **Report** key
3. On the edition keypad, enter the name of the pdf file and press **ENTER**.

The report generation is completed once the icon is no more displayed on the upper banner.

NOTE

The pdf report will be saved on the disk, in the directory **Scope**.

Display of the report

Once the report has been generated:

1. Return to the **HOME** page, and select the **File Explorer**
2. Select the pdf file of the report in the directory **Scope**.
3. Press **Load** > **Confirm Load**.

Logo, company & operator name selected in the Setup page (see "Report" on page 38)

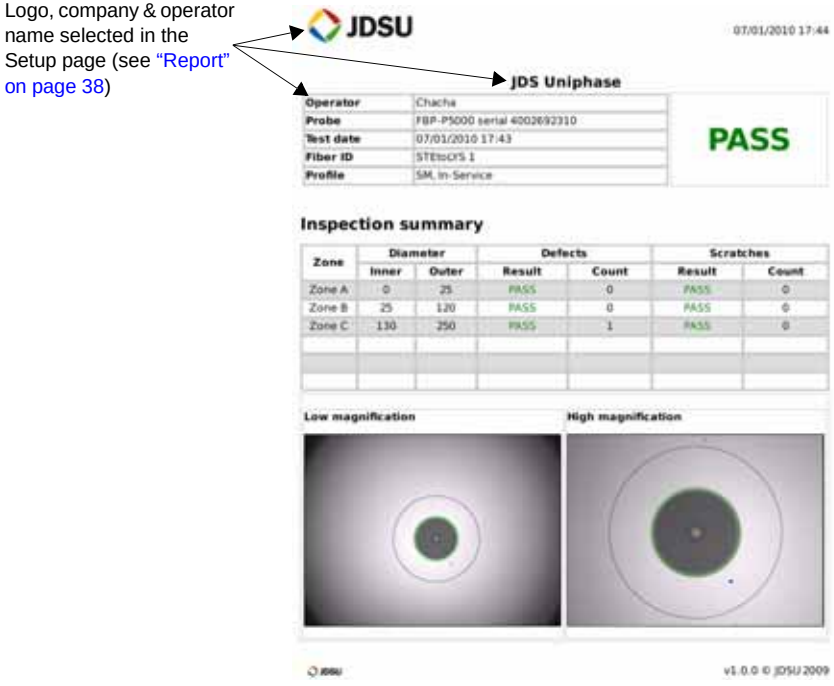


Fig. 22 PDF report

File management

7

The files management with the 2000 Platform can be performed, wether a module is set onto the 2000 Platform or not.

The topics discussed in this chapter are as follows:

– “File Explorer Overview” on page 46
– “Directories and Files selections” on page 46
– “Directories & Files editing functions” on page 47
– “Working with directories and files from the explorer” on page 48
– “Creating a screenshot” on page 55
– “Creating a report” on page 56
– “Merging pdf or txt files” on page 58
– “Storage media” on page 59

File Explorer Overview

To reach the File Explorer page

– On the **Home** page, select the **File Explorer** icon.

The File Explorer page appears.

Fig. 23 File Explorer page

Directories and Files selections

Directory selection

To select a directory from the explorer page:

1 Press on the directory that must be selected on the left of the screen.

The list of files the directory countains displays on the right side of the screen

The selected directory is underlined in blue

2 Click on the arrow at the left of the directory name, or press validation hard key , to display the sub-directories if any.

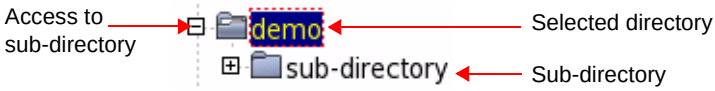


Fig. 24 Directory selection

Files selection

To select one or several files from the explorer page:

1 Press on files that must be selected.

or

To select a list of files using the keys of the Platform:

a Select and validate the first file of the list (underlined in red)

b Set the cursor on the last file of the list (underlined in blue)

c Maintain the right direction key ▶ pushed until all the files are selected.

or

Click on **Select all** menu key to select all files into the directory.

NOTE

The last selected file is underlined in red and the previous one(s) selected is/are undelrined in blue.

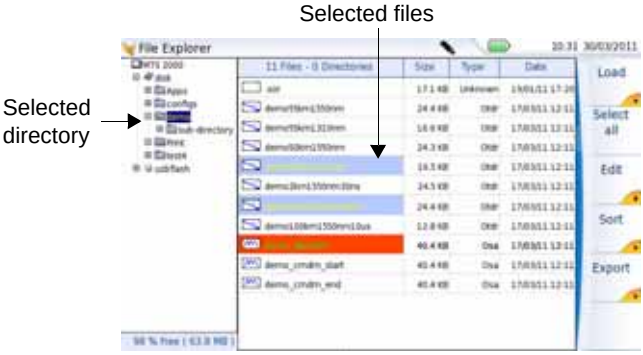


Fig. 25 Example of files selection

Directories & Files editing functions

Copy/Cut & Paste files/ directories

To copy (cut) one or several files, or one directory, and paste them in another place:

1 Select the directory / the file(s) (see "Directories and Files selections" on page 46).

2 Press **Edit** menu key

3 Press **Copy** to keep the directory / file(s) to their initial location.

or

Press **Cut** to delete the directory / file(s) from their initial location

4 On the left of the screen, select the directory; or select the new storage media.

5 Click on **Paste** menu key.

Renaming a directory / file

1 Select the directory / file to be renamed (see "Directories and Files selections" on page 46).

2 Press **Edit** > **Rename Directory** or **Rename File.**

The Edition keypad displays.

Fig. 26 Edition keypad for renaming file

3 Press **Clear** if you wish to delete the entire name

4 Enter a new name for the directory / file.

5 Click on **Enter** to validate the new name.

Deleting a directory / file

1 Select the directory or file(s) to be deleted (see "Directories and Files selections" on page 46).

2 Press **Edit** > **Delete.**

A confirmation dialog box displays.

3 Press **Yes** to delete the selected directory or file(s).

Press **No** to cancel the deletion.

Working with directories and files from the explorer

Creating a directory

To create a new directory from the explorer page:

1 Check the cursor is set on the left of the screen

2 Select the storage media into which the directory must be created

3 If you want to create a sub-directory, select the directory into which it must be created.

4 Press the right menu key **Create Directory**.

The edition keypad displays

5 Enter a name for this directory

6 Press **Enter** key to validate the new directory

Opening files

Once a file is selected, press **Load**, then **Confirm Load** menu keys.

Opening several files at the same time can be done exclusively with trace files (example: all OTDR trace files if a reference trace has been defined). Other type of files (PDF, TXT ...) must be open one by one.

If different types of files have been selected in the Explorer, only the last one selected will open.

File Types

For files recognized by the 2000 Platform, the types are symbolized by icons. E.g.

Icon	Type of FO file
	OTDR file (.SOR extension)
	Multi OTDR file (.MSOR extension)
	OSA file (.OSA extension)
	Power Meter file (.LTS extension)

Icon	Type of file
	HTML file (.HTML extension)
	PDF File (.PDF extension)
	Text file (.TXT extension)
	License file (.LIC extension)
	CSV file (.CSV extension)

Icon	Type of file
	JPEG / JPG file (.JPEG extension)
	PNG file (.PNG extension)
	XML file (.XML extension)

With the 2000 Platform, you can open and load any kind of FO files (OTDR, OSA, PON, LTS) even if the corresponding module is not set into the Platform.

Sorting files

Wether files are selected or not, the key **Sort** allows to access to a sub-menu allowing to sort te file accorfing to pre-defined parameters:

- **Sort by name**: the files display in an ascending order (from A to Z). If you click once again on the key, the files display in a descending order (from Z to A).
- **Sort by size**: by cliking once on this key, the files display from the smallest to the heaviest one. Clicking a second time allows to sort the files in opposite order.
- **Sort by type**: clicking once on this key; the 2000 Platform displays files in an ascending order (the file type A to file type W). By clicking again, the 2000 Platform displays the files in opposite order.
- **Sort by date**: clicking once on this key; the 2000 Platform displays files from the more recent to the less one. By clicking again on key, the Platform displays files from the older to the more recent one.

NOTE

You can also sort files clicking on the column titles in the files list

Transferring files to a PC

If some Results traces or other kinds of file need to be transferred to the PC, this can be easily done using the USB cable delivered on standard with the 2000 Platform.

Establishing connection 2000 Platform <-> PC

1 Connect the 2000 Platform to a PC, plugging the USB cable on the mini USB port of the Platform toward a USB port on the PC.

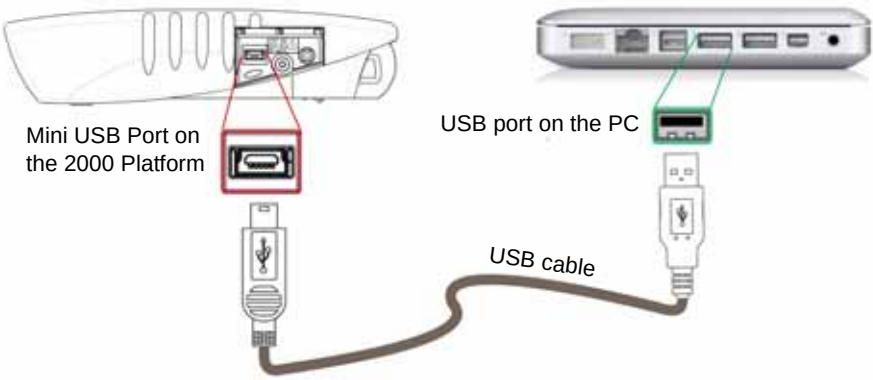


Fig. 27 Direct connection 2000 Platform <-> PC

2 Once connection is established, confirm that you wish to activate the USB link in the pop-up window on the 2000 Platform.

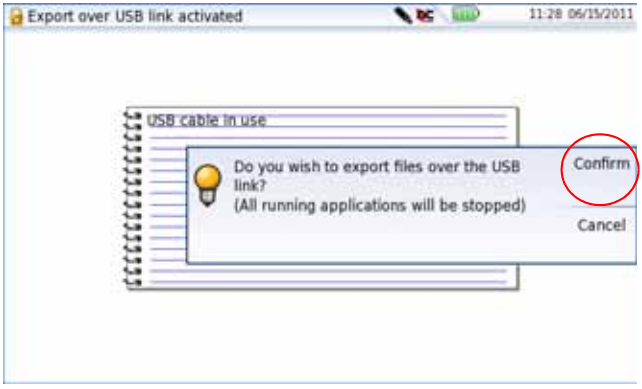
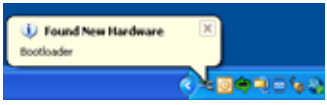

Export over USB link activated
11:28 06/15/2011
USB cable in use
Do you wish to export files over the USB link?
(All running applications will be stopped)
Confirm
Cancel

Fig. 28 Confirmation of files export via USB cable

A message displays on the bottom right side of the PC informing a new hardware is detected.



3 Click on the message and select «**Open folder to view files**» in the dialog box **JDSUDISK (F:)** («F:» is an example, it can be different according to your PC and to the USB port used).

Fig. 29 Open 2000 disk content

The 2000 platform disk content opens onto the PC.

Transferring files onto the PC

1 Select the file(s) from the 2000 Platform to be transferred onto the PC

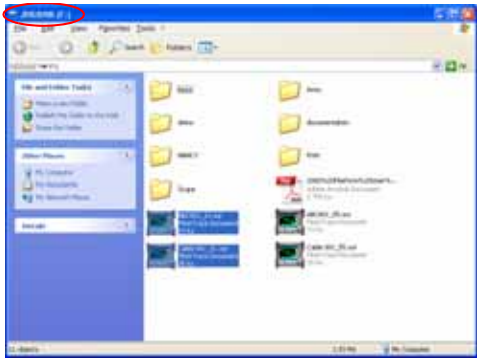


Fig. 30 Files selection from the 2000 Platform

2 Press **Ctrl + C**, or right click and select **Copy**.

3 On the PC, select the directory in which file(s) will be transferred.

4 Press **Ctrl + V**, or right click and select **Paste**.

Cancellng the connection

Once all desired files have been transfer onto the PC, connection between 2000 Platform and PC can be removed:

1 On the PC, use the appropriate method to safely remove the USB cable from the USB port.

The screen displays the results trace of the active function, or returns to the Home page if no function is active..

2 Remove the mini USB plug from the 2000 Platform USB port.

Sending files by Bluetooth

The Bluetooth option allows file transfers between the 2000 Platform and another device.

Setting up a Bluetooth connection

1 On the **Home** page, press **System Settings** key

2 Under **I/O interfaces**, select **Bluetooth** > **Enable**

The icon is displayed on the upper banner of the screen

3 Push the **Bluetooth Pairing** menu key

The Paired Bluetooth screen appears

4 Do one of the following:

Press the **Become Pairable** soft key to wait for another device to initiate the connection to the 2000.

or

If the desired device is not displayed on the screen, or if no devices are detected, press the **Search Devices** soft key.

The 2000 Platform is searching for the devices which could be used via Bluetooth with the equipment.

REMINDER
You may need to activate bluetooth on the other device to allow pairing.

A baragraph is displayed during research

Once the research is completed, a list of the available devices is displayed, with the level of detection of the 2000 Platform.

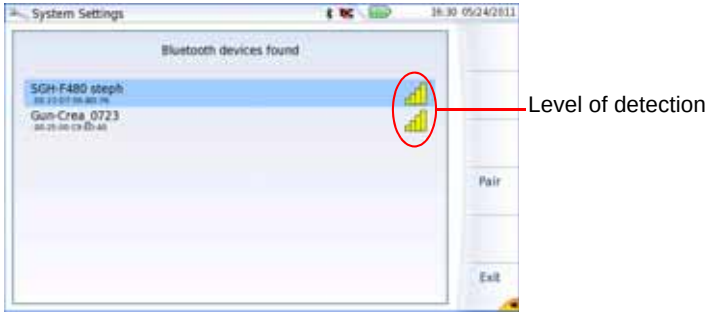


Fig. 31 List of devices found

a Select the device to be paired with the Platform underlined blue

b Push the **Pair** key to connect the device to the Platform

5 If prompted, enter a pairing code. The code must be identical on the 2000 Platform and the device.

6 Once the bluetooth device and the Platform are paired, a screen is displayed with the description of the device

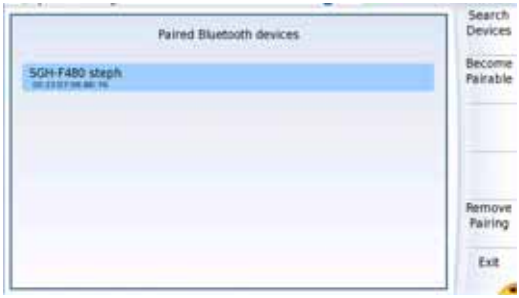


Fig. 32 Device paired with Platform

The icon has a blue background when paired with a device ,

You can now go to the file explorer and transfer files from the 2000 Platform toward the bluetooth device and vice versa.

Transfering files via Bluetooth

Once the connection has been established with a bluetooth device:

1 Go in the File Explorer.

2 Select the file(s) to be transferred from the Platform toward the PC.

3 Press **Export** menu key.

4 Push **Export** > **Send by Bluetooth** menu keys Send by Bluetooth .

A confirmation message displays once the transfer is completed.

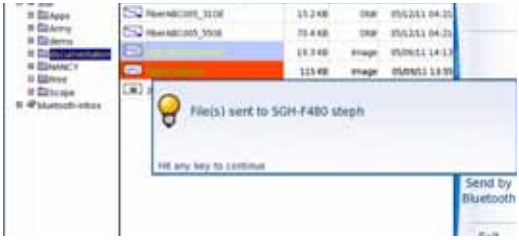


Fig. 33 Confirmation of files sending

You can also transfer file(s) from the bluetooth device toward the Platform.
In this case, the files received will be stored in a storage media created automatically on the Platform: *bluetooth-inbox*.

WARNING
The files stored in bluetooth-inbox will be lost once the 2000 Platform is switched off. Move the files to keep toward another storage media (disk, usb key...).

Removing the Pairing

1 To remove the pairing between the two equipments, in the **System Settings** page, push the **Bluetooth Pairing** key
2 In the screen displayed, push the **Remove pairing** key

The icon on the upper banner of the screen becomes showing the Platform is no more connected to a bluetooth device, but the Bluetooth option is still active.

To deactivate the bluetooth onto the Platform, go in the **System Settings** page, and under **I/O Interfaces**, select **Disable** on the **Bluetooth** line.

Creating a screenshot

You can create captures of what is displayed on the screen, directly from the 2000 Platform.

Configuring the parameters of screenshots

To configure the screenshot and choose the format of the generated file:

1 Press **HOME** hard key
2 Select the **Settings** icon to reach the **System Settings** page.
3 In the **Report** box, on the line **Mode**, select **Screenshot**

Choosing this option, you can save the displayed screen in JPG, PNG or PDF format, exactly as it is displayed on the screen.

Therefore, if you make a zoom on the trace for example, the file will only show the zoom section.

4 On the line **File format**, select if the printed file will be a **JPG**, **PNG** or **PDF** file.

Taking a screenshot

Once the screenshot parameters are configured:

1 Reach the display which will be saved as a screenshot in a file.

2 If necessary, make modifications on this display (example: zoom on trace...)

3 Press simultaneously the left and right arrow keys ◀ ▶ for about 5 seconds

or

Click on the upper banner of the screen and, in the virtual control buttons bar, press **Export** key

The icon displays until the end of process.

4 Press the **FILE** key to find the JPG, PNG or PDF file in the Explorer

Name of the screenshots files

The screenshot is saved in a file, which is automatically named as follow:

– *Print_date (year/month/day)_time (hour/minut/second).jpg/png/pdf*

Fig. 34 Example of screenshot, open in the Web Browser of the 2000 Platform

The file is saved in the directory **Print**, on the storage media **disk**.

Creating a report

Once the results page of a function is opened (example: OTDR trace, Power Meter results...), it can be exported in a report, using the 2000 Platform.

Configuring the report

To configure the report and choose the format of the report file:

1 Press **HOME** hard key

2 Select **Settings** icon to reach the **System Settings** page.

3 In the **Report** box, on the line **Mode**, select **Report**.

Choosing this option, you can save the open file in a JPG, PNG or PDF file report, exactly as if the file was printed on paper.

Therefore, if the file is too large for one A4 page, several JPG, PNG or PDF files will be created.

4 On the line **File format**, select if the report file will be a **JPG**, **PNG** or **PDF** file.

5 To display a Logo on the upper right of the report pages, click on **Logo** line and select the Logo to be displayed on the upper right of the page:

a Press ▶ to open the edition keypad

b Enter the path of the logo file (example: `disk/jdsu logo.jpg`)

c Press **Enter** to validate.

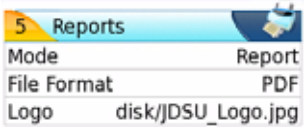


Fig. 35 Example of Report configuration

Creating the report

1 Open the file to be saved in a report in JPG, PNG or PDF format

2 If necessary, make the modifications on the file/trace (see user manual of the 2100 OTDR Modules for OTDR trace files).

3 Set the trace view as wished.

For OTDR traces

– if the function is set to the **Trace** mode (**Trace** is selected on the menu key **Trace/Table/Summary**), the JPG/PNG/PDF file will countain the header and the trace (in one page).

– If the function is set to **Table** mode (**Table** is selected on the menu key **Trace/Table/Summary**), the JPG/PNG/PDF file will countain the header, the trace and the entire results table (several pages may be required)

– If the function is set to **Summary** mode (**Summary** is selected on the menu key **Trace/Table/Summary**), the JPG/PNG/PDF file will countain the header and the summary page, with either the Bend table or the Alarm Table according to the selected item with the menu key.

This view is only available with OTDR traces.

4 Click on the upper banner of the screen and, in the virtual control buttons bar, press **Export** key

The icon displays until the end of process.

5 Press the **FILE** key to find the JPG, PNG or PDF file in the Explorer

The files are saved in the directory **Print**, on the **disk** media storage.

Name of the report

If a trace has been saved in a report file, the name of the JPG/PNG/PDF file is as follow:

– *name of the stored trace_date (year/month/day)_time (hour/minute/second).jpg/png/pdf*

NOTE

If several traces are displayed in overlay, a different report file is generated for each trace open.

Fig. 36 Example of report (in pdf)

Merging pdf or txt files

In the Explorer page, two pdf files or more, generated via the results traces can be merged in one pdf file.

– The pdf files that can be merged are those generated via the **Fast Report** key on trace results page (see "Creating a report" on page 56)

– The txt files that can be merged are those saved with the results trace (see OTDR Modules User Manual: E2100M02)..

1 In the Explorer, select the two or more pdf/txt files generated

2 Press **Export** menu key

3 Press **Merge** key

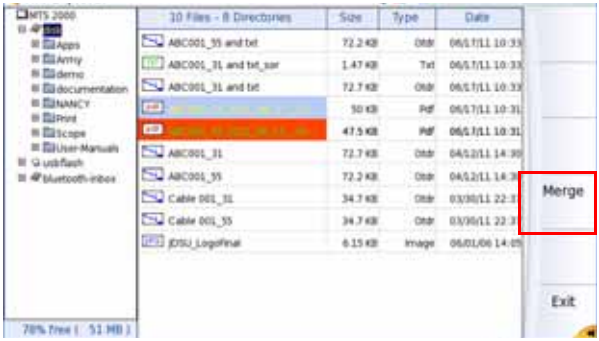


Fig. 37 Files selection and Merge key

The icon is displayed during merging process.

After a few seconds, the files are merged in one pdf/txt file, which name by default is: *merged_year_month_date__hour_min_sec*.pdf

The file is automatically saved in the same directory as the one where files have been selected.

It gathers all results from pdf/txt files selected (and traces for pdf file), in one single pdf file of several pages (1 results screen per page, if the results table does not exceed one page).

NOTE

Once merged file is saved, it can be renamed in the Explorer (see "Renaming a directory / file" on page 48).

Storage media

For saving or recalling data, the 2000 Platform offers a wide choice of media, both built-in and external.

Free space on selected media is clearly displayed at the bottom of the left panel.

Storage media built into the 2000 Platform

The 2000 Platform is delivered with an internal memory , which maximum capacity is of 1GB (with a minimum of about 128 Mb are available for data storage).

External USB storage media

The 2000 Platform is equipped with 2 USB ports as standard. One of these can be used to connect an external storage medium, in particular a USB memory stick.

NOTE

Although two USB ports are present, it is not possible to use simultaneously more than one external USB storage medium.

USB memory stick connection

1. Insert the USB memory stick in one of the 2000 Platform's USB port.

   A sound is emitted to confirm the successful insertion and recognition of a USB memory stick.

   Then, the icon is displayed in the upper banner to inform the user the USB stick is ready to be used.

When a file is moved in the explorer of the Platform, the end of the move on the screen does not mean that writing of data into the memory is complete. Some data may still be in a writing process if the storage unit is removed prematurely.

USB memory stick disconnection

1. Before disconnecting the USB memory stick, always select a storage device different from usbflash (select disk for example) in the explorer.
2. Make sure you no longer have any running applications using the usbflash storage media.
3. The user must push the **EJECT USB** key, available in **File Explorer**.

   The icon becomes to indicate it can be removed safely. In this state, the USB stick cannot be used anymore

The USB memory stick can then be disconnected from the Platform USB port.

NOTE

The USB memory stick can also be removed using the **Expert Tools** > **Media Utilities** menu, accessible via the **System Settings** page.

See Chapter 11 “Maintenance and Troubleshooting” if any problem occurs with the USB memory stick

Abbreviations for storage media

The abbreviations used in the explorer for the different storage media are:

Abbreviation	Storage medium
disk	Internal flash memory
usbflash	USB memory stick
bluetooth-inbox	Bluetooth storage media (option)[a]

a. The files stored in bluetooth-inbox are lost when the Platform is switched off.

Transferring the 2000 Platform Interface

8

The 2000 Platform can be used in combination with a PC in order to transfer the Platform Interface onto a PC, or to access the internal memory or USB memory stick contents on the PC.

Topics described in this chapter are as follows:

– “Establishing connection” on page 64
– “Transferring the Interface” on page 66
– “Virtual control buttons bar” on page 67
– “Equivalence between the keyboard and 2000 Platform” on page 67

Establishing connection

The connection between 2000 Platform and the PC can be done directly, or via a local network.

The transfer of the interface can be done using a VNC window on PC.

For an intensive use of the deport screen or when it is used via a WAN network, it is strongly recommended to use a dedicated VNC client. The VNC clients recommended are Tight VNC (V 1.2.9 or later) and Real VNC (V 4.1.1 or later).

Connecting the 2000 Platform and the PC

1 Connect the 2000 Platform to the PC via an Ethernet cable, using the RJ45 connectors set on both equipments.

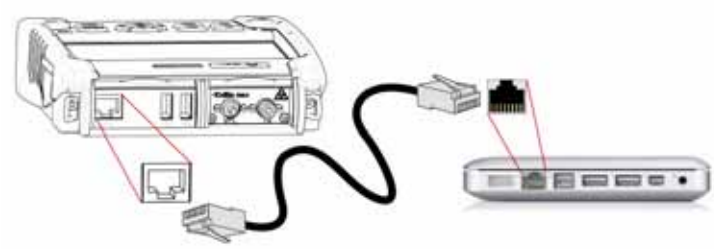


Fig. 38 Connection 2000 Platform and PC

2 Check the network connection on the PC is set in Dynamic mode.

Configuring the 2000 Platform

1 In the **Home** page of the 2000 Platform, validate the **Settings** icon.

2 In the **System Settings** page, in the **I/O Interfaces** box, configure the following parameters:

Ethernet > Mode

Parameters of the local Ethernet network to which the 2000 Platform is connected:

Config 1 to 4 static mode enabling input of the configuration of 4 sites. If this parameter is selected, the folowing parameters must be entered:

– Site Name the user can enter the name of the site in the Edit menu.

– IP Address — IP address of the 2000 Platform
– IP Mask — address of the mask of the sub-network
– IP Gateway — IP address of the machine enabling access outside the sub-network.
– DNS[1] — IP address of the machine providing the IP address on the basis of the name
– Domain name — name of the local network to which the 2000 Platform is connected.

Dynamic — in this mode, which requires a DHCP server, the 2000 Platform requests an IP address from this server which will be allocated dynamically if dynamic host configuration is activated on the local network.
After selecting this mode or after power-on, the 2000 Platform tries to establish a connection to obtain an address from a DHCP server. If for any reason, this process fails, the 2000 Platform reverses to static IP address mode with User1 IP address.

NOTE

Once the 2000 Platform is connected to the network, the icon indicates the connection is working.

Proxy > Use proxy

1 Select **No** if no proxy is used.
2 If **Manual** has been selected, enter the **Proxy Address**.
3 If **Auto** has been selected, enter the **Pac Address**.

Note the 2000 Platform IP Address

Fig. 39 Example of configuration for I/O Interfaces box

4 Note the IP Address displayed in the System Settings page.
5 Wait about 10 seconds the connection is established.

The 2000 Platform Interface can now be transferred onto the PC, or the internal memory or USB key ocntents can be transferred on PC..

1.Domain Name Server

Transferring the Interface

Once the connection is established between the 2000 Platform and the PC, proceed as follow:

1. Open Internet Explorer on the PC.
2. Considering `10.33.18.93` is the IP Address of the 2000 Platform (as shown Figure 39 on page 65), enter the following address in the Internet Explorer window:

   `http://10.33.18.93:5800`
3. Press **Enter** to validate.

   A VNC window opens, demanding a password

4. Press **OK** without typing any password.

   The screen of the 2000 Platform appears offset on your PC.

Click to install TightVNC software on your PC (not mandatory)

Fig. 40 VNC window

You can use keyboard mouse of the PC to control the 2000 Platform (see "Equivalence between the keyboard and 2000 Platform" on page 67).

NOTE

Once Remote screen is accessbile via VNC, the icon displays on the upper banner of the screen until the connection is cut or the 2000 Platform is switched off.

Virtual control buttons bar

It is possible to emulate hard keys with Virtual Control buttons. This virtual control buttons bar is especially useful when the 2000 Platform screen is exported on a remote PC.

To display those buttons, click once on the top of the screen in the status bar, at the same height than the date and time.

Fig. 41 Virtual control buttons bar

The virtual control buttons bar is displayed during a few seconds. You may click on any of these buttons to obtain exactly the same results than using the hard keys on the front panel of the 2000 Platform.

Equivalence between the keyboard and 2000 Platform

The PC keyboard can replaced all the buttons and keys of the 2000 Platform except the **ON/OFF** button**:**

– The menu keys to the right of the screen are replaced by the function keys **F1** to **F6**.

– The buttons below the screen are equivalent to **Ctrl +** a letter (see table below).

– The direction keys have the same function on the external keyboard and on the 2000 Platform.

Function on the 2000 Platform	**External keyboard**
HOME	Ctrl + H
SYSTEM SETTINGS	F12
SET-UP	Ctrl + U
FILE	Ctrl + F
RESULTS	Ctrl + R
START/STOP	Ctrl + S
EXPORT	Ctrl + P[a]
◄ ▲ ► ▼	¬ - ® ¯
Menu keys 1 to 6 (from top to bottom)	F1 → F6
ABOUT	F11
Save and quit (Exit)	Entrée/Enter

Function on the 2000 Platform	External keyboard
Quit without saving (Abort)	Escape/Echap.

a. The Export function is available directly on the 2000 Platform pushing simultaneously the left and right arrow keys.

NOTE

Those equivalences are also valid with a keyboard directly connected to the 2000 Platform via one USB port.

Technical specifications

9

This chapter contains the technical specifications of the 2000 Platform mainframe.

The topics discussed in this chapter are as follows:

– “Display specifications” on page 70
– “Memory” on page 70
– “Input/Output” on page 70
– “Power supply” on page 70
– “Dimensions - Weight” on page 71
– “Environment” on page 72
– “Characteristics of the options” on page 73

Display specifications

Screen

- Backlight color touchscreen
- Size: 5 inches
- Resolution: 800 x 480 pixels

Memory

- Standard memory: internal memory, with a capacity of 1GB (with a minimum of about 125 Mb are available for data storage).

Input/Output

- two USB 2.0 host ports.
- one Mini USB 2.0 device
- one RJ 45 connector for Ethernet interface 10/100/1G
- built-in loudspeaker
- headset jack

Power supply

Battery

The instrument can be supplied with one Li-Polymer battery.

Endurance of the 2000 Platform with battery

Measurement conditions:

- at +25 °C,
- at full battery capacity (4.5 Ah),
- 2000 Platform equipped with one OTDR LM module

Endurance

	Endurance
Conditions of use	**Li-Polymer battery**
According to Telcordia GR-196-CORE recommendation: Normal conditons, with normal backlight, 3 acquisition of 30 seconds per quarter of hour, auto off	up to 8 hours
Under continuous acquisition, with high screen backlight : - with an OTDR QUAD Module - with an OTDR LM Module	 Up to 3h Up to 3h45

Mains adapters

	Standard Mains Adapter
Input	100-250 V, 50-60 Hz
Output	12V DC 2.5 A max
Compliance	EN 60950

Supply or Power assigned in AC and in DC: 25 W

Dimensions - Weight

	Weight	
2000 Platform without options, battery nor module	692 g	1.52 lbs
2000 Platform with a Li-Polymer battery and one OTDR LM Module	1.21 kg	2.67 lbs
Li-Polymer battery	172 g	0.37 lbs
VFL/PWM option	30 g	0.066 lbs

	Dimensions (mm) (H X W X D) Bumpers included	**Dimensions (mm) (H X W X D) W/o bumpers**
Without module	175 x 138 x 41	169 x 134 x 39
With 1 module	175 x 138 x 80	169 x 134 x 39

Environment

Temperature

–	Operating temperature range	-20°C to +50°C (-4°F to +122°F)
–	Operation including all options (guaranteed specifications)	0° to +40°C (+32°F to +104°F)
–	Storage	-20°C to +60°C (-4°F to +140°F)

Humidity

– 5 to 95% without condensation

Climatic pressure

– Climatic pressure: 4000 meters

EMI/ESD

– CE class B Compliant (EN61326-1)
– FCC 47-1 Part 15 Compliant

Electrical Safety

– EN 61010-1: 2001 Compliant

Drop test

In accordance with the Telcordia GR-196-CORE recommendations, the 2000 Platform resists the following test:

– 6 impacts dropped from a height of 1m on a pinwood floor of 5 cm thickness (1 impact on each of its 6 sides, with power off).

Shocks

The 2000 Platform resists the following test:

– 3 shocks per axis along each of the 3 axes, with power off.
– Impacts of 15g, 1/2 sine, duration 11 ms, at 10 second intervals.

Bumps

The 2000 Platform resists the following test:

– 1,000 bumps per axis along each of the 3 axes, with power off.
– Jolts of 15g, 1/2 sine, duration 6 ms, at 1 second intervals.

Vibration

The 2000 Platform resists the following vibration tests:

- Complete test comprising 6 cycles along each of the x, y and z axes.
- One cycle of 5 to 200 Hz and back to 5 Hz with a sweep duration of one minute/octave.
- 3 mm amplitude displacement test, for the range 5 Hz to 15 Hz.
- 3g acceleration test for the range 16 Hz to 200 Hz.

Flammability

The 2000 Platform housing (in ABS, type V0) does not propagate fire.

Characteristics of the options

Power meter option

Specifications given for 25°C, after 20 minutes stabilization time and after zero setting.

- Wavelength range: 800 to 1650 nm in steps of 1 nm
- Calibrated wavelengths: 850 / 1310 / 1490 / 1550 / 1625 nm
- Accuracy at calibrated wavelengths: ± 0.2 dB (at -30 dBm)
- Input power range : -60 dBm to +10 dBm
- Maximum resolution: 0.01 dB / 0.01nW
- Measurement range:+5 to -50 dBm (-45 dBm from 800 to 1250 nm)
- Linearity within the measurement range: ± 0.2 dB

VFL

- Wavelength: 650 nm
- Length of fiber: up to 5 km
- Class 2 laser (standards EN60825-1 and FDA21 CFR Part 1040.10).

Bluetooth Option

- Bluetooth Option
  - Class 2
  - Range: up to 10 meters

Options and accessories

10

This chapter shows the references of the options and accessories of the 2000 Platform.

The topics discussed in this chapter are as follows:

– “References of options for the 2000 Platform” on page 76
– “References of accessories” on page 76
– “References of manuals” on page 77
– “References of result processing software” on page 77

References of options for the 2000 Platform[2]

Base Unit references	Reference
MTS-2000 Handheld Platform with touchscreen	EM2000T
T-BERD 2000 Handheld Platform with touchscreen	ETB2000T

Power Meter / VFL / Wifi / Bluetooth options	Reference
Optical Power Meter option for T-BERD/MTS-2000 Platform	E20PM
Power Meter and VFL option for T-BERD/MTS-2000 Platform	E20PMVFL
Power Meter and Talkset option for T-BERD/MTS-2000 Platform	E20TSPM

Mains options	Reference
Cigarette lighter adapter for 2000/4000 Platform	E40LIGHTER

References of accessories

Battery	Reference
Replaceable Li-Polymer battery (see “Changing the battery” on page 95)	E20LIPO

Scope	Reference
Digital Videoscope kit including FBP-P5000 probe (USB2.0) in a small soft case, and 7 tips in a box	EDFSCOPE5K

Carrying Cases	References
Hard carrying case for the MTS/T-BERD 2000 and various accessories	E20HCASE1
Large Soft Case for MTS/T-BERD 2000/4000 Platform	E40SCASE1

2.These options must be ordered together with the instrument.

References of manuals

User manual for 2000 Platform	Reference
Printed User manual for 2000 Platform (French)	E2000M01
Printed User manual for 2000 Platform (English)	E2000M02
Printed User manual for 2000 Platform (German)	E2000M03

NOTE

The User Manuals for MTS/T-BERD 2000 (Platform & Modules) are available in pdf format, into the unit.

The printed versions of the manuals are available on option, in French, English and German.

References of result processing software[3]

	Reference
Optical Fiber Trace software	EOFS100
Optical Fiber Trace software (5 licences)	EOFS1005L
Optical Fiber Trace software (site licence)	EOFS100SL
FiberTrace software - update	EOFS100UP
Optical Fiber Cable software	EOFS200
Optical Fiber Cable software (5 licences)	EOFS2005L
Optical Fiber Cable software (site licence)	EOFS200SL

3.Free software updates on the Web (but without user manual)

Maintenance and Troubleshooting

11

This chapter describes how to maintain your unit and identify and correct problems related to the 2000 Platform.

The topics discussed in this chapter are as follows:

– “Maintenance procedure” on page 80
– “Recycling Information” on page 92
– “Troubleshooting” on page 92
– “General information on warranty” on page 97

Maintenance procedure

Maintenance work on this instrument must only be undertaken by qualified personnel using suitable equipment.

In most cases, it is advisable to contact the nearest JDSU Service Centre, which will undertake the appropriate troubleshooting and repair work.
The performance and technical complexity of the 2000 Platform class this instrument in a new generation of equipment, for which JDSU has laid down a maintenance policy based on the principle of standard module replacement.
In implementation of this policy, we have set up powerful card trouble-shooting test resources in our factories and a rapid dispatch system operating between our factories and branches.
Only by this procedure can the high quality of the instrument continue to be ensured after repair work. This procedure also has the advantage of reducing repair costs and time.

In the interests of quality and efficiency, we strongly recommend adoption of the following procedure in the event of a fault, before any other steps are taken:

– Verify that the instrument is plugged in.
– Check the connections of any peripheral equipment to the 2000 Platform.
– If a fault is detected, or in case of doubt, it is advisable to contact the nearest JDSU Service Centre, which will undertake the appropriate repair work.

Cleaning

Cleaning plates and housings

The front and rear plates and the housings may become tarnished with handling. To clean them, use only a rag moistened with soapy water.

Never use any product containing acetone, trichloro-ethylene, benzine or alcohol, as these will attack the printed markings.

Cleaning the screen

To clean the screen, use an antistatic product.

Cleaning the optical cable connector

– Use a non-linting type of paper, such as Joseph paper, soaked in isopropylic alcohol.
– Pay particular attention to the polished face of the fiber, rubbing it in a direction perpendicular to the axis of the fiber.

Cleaning the optical connections of the 2000 Platform

– Squirt a highly volatile solvent (such as isopropylic alcohol) into the connector.
– Blow out the connector using a clean dry air supply from an aerosol can fitted with an extension.

NOTE

If your module has a universal connector, unscrew its adaptor to access the ferule.

Accessing to the 2000 Platform information

On the 2000 Platform, some screens allows to display information on different elements of the equipment.

To display the information on the 2000 Platform

1 On the **Home** page, validate **Settings** icon to reach the **System Settings** page.
2 On the right menu keys, press **About** to display the presentation screen of the 2000 Platform.

General page

The **General** page is displayed by default, and allows to display the presentation screen, with all the information concerning the software versions, the hardware options and the module installed.

Fig. 42 General page

This page shows:

– The software version information
– The product contents: base, optical options, battery type, module installed and date of calibration for options concerned.

  The options set into the 2000 Platform are marked with a green tick.

Software options page

This page allows to visualize the software options available on the 2000 Platform.

1 Once on the **About** screen, press **Software Options** menu key to display the list of software options available on your 2000 Platform.

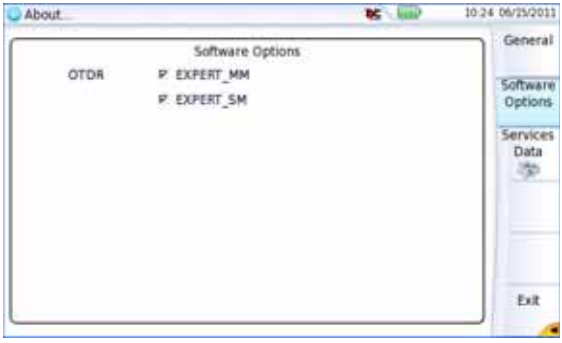


Fig. 43 Software Options page

Services Data page

This page allows to display information about the elements inside the 2000 Platform (CPU, Memory, hardware revision, screen reference...).

1 Once on the **About** screen, press **Services Data** menu key to display the list of elements countained on your 2000 Platform.

Fig. 44 Services Data page

Accessing to the 2000 Platform documentation

All documents necessary for the 2000 Platform use are directly available onto the equipment.

To display the list of documents available for 2000 Platform use:

1. Validate the **Help** icon on the **Home** page.
2. Click on **Link to PDF User Manual**.
3. In the new page, click one link to display the corresponding document: User manual, Getting Started Manual, Quick Card...

Fig. 45 Help page

Installing a new version of the software

When a new software version is loaded, there is a risk of re-initialization of the internal memory. Before installing the new software, it is therefore advisable to save the results in the memory, using the **Save** function called up by the **FILE** button.

Do not interrupt the installation process, as this could damage the instrument.

To avoid any interruption of the installation procedure, the 2000 Platform must be operating on the mains: if the procedure is started while operating on battery, a message indicates that the instrument must be connected to the mains.

Downloading from Internet

When the software is obtained from the Internet, it must be saved on a storage medium before the software upgrade of the product can be carried out. To do this:

1. Open Internet Explorer
2. On the JDSU web site (http://www.jdsu.com), open the page of the product concerned
   - MTS 2000 Multiple Services Test Platform

     or
   - T-BERD 2000 Multiple Services Test Platform
3. Click on the tab **Downloads**.
4. Click on the link *2000 Firmware Update*

   A new page opens, displaying the current version available and several links.
5. Click on the icon or on the exe file to load the archive.
6. In the new dialog box displayed, click on **Save** to save the exe file on the PC.
7. Once completed, connect the USB memory stick to the PC and follow the instructions chapter "Installation from a USB memory stick" on page 84, from step 2.

Installation from a USB memory stick

You must be equipped with a USB memory stick with a minimum capacity of 128 Mo.

Before installing the upgrade, you must format the USB memory stick (see "Formating the USB memory stick onto the 2000 Platform" on page 94).

1 Once formated, disconnect the USB memory stick from the 2000 Platform using the key **Eject USB** in the Media Utilities page.

As for any media formatting, please note that all data present on the USB memory stick will be irremediably lost.

2 Connect the USB memory stick to the PC

3 Unzip the upgrade files on the PC and transfer it to the USB memory stick:

a Download and save on your PC the .exe upgrade file that you can get from the web (http://www.jdsu.com, see "Downloading from Internet" on page 84).

b Once the transfer is completed, double click on the .exe file: A window will appear. Check that the folder is correct i.e. the USB memory stick driver is appearing in the line at the bottom of the dialog box then press OK. If not, click on the icon in order to select the right USB drive.

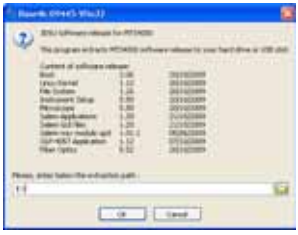


Fig. 46 List of software update

c Press **OK** and wait for the end of loading.

4 Then remove the USB memory stick, using the appropriate procedure, from your PC

5 Insert the memory stick into one of the USB ports on the Platform.

NOTE

A bip is emitted each time the USB memory stick is inserted or removed from the USB port.

6 Press the **HOME** button, then successively the **Settings > Expert Tools > Upgrades > Software Upgrade > Upgrade from USB**.

The message Are you sure? is displayed

7 Click on **Confirm**.

The list of the software versions available on the USB stick is displayed next to the versions installed on the 2000 Platform.

8 Click on **Show Prev choice** or **Show Next Choice** to display the previous and next versions available.

9 Click on **Confirm this Choice** to start the upgrade of the selected software(s).

or
Click on **Confirm All Choices** to upgrade all versions.

NOTE

The software versions list does not always appear (cf previous versions) as well as the **Previous / Next Choice** buttons and the **Confirm/Continue** key. In this case, the upgrading starts automatically.

Upgrading begins. The 2000 Platform is automatically rebooted. Upgrading takes several minutes. Finally, the 2000 Platform is automatically restarted.

During the upgrade, the Testing indicator is lit in red. Do not push any button or remove the USB memory stick while the indicator is lit. The USB stick can be removed if necessary once the Testing indicator is off.

Installation from Ethernet

Before starting the software upgrade via Ethernet, make sure the IP adress of the PC server.

The update can be performed directly onto the equipment, using an http address.

1 Connect the 2000 Platform to a PC via an Ethernet link.

2 On the **Home** page, press **Settings** key to open the **System Settings** page.

3 In **I/O Interfaces**, on the line **Ethernet**, select **Mode**: **Dynamic**.

4 In the **Upgrade Server** box:

- On the line **Address Type**, select **Server name**
- On the line **Server Name**, enter the address: **2k.updatemyunit.net**

Fig. 47 Configuration of the Upgrade Server

5 In the **I/O Interfaces** box::

– On the line **Use proxy**, select **No**, **Manual** or **Auto** wether a proxy is used or not.

6 Once completed, press **Exit** to return to the **Home** page.

7 Press, in succession, **Expert Tools > Upgrades > Software Upgrade > Upgrade via Ethernet**.

The message `Verify IP address of PC server` appears.

8 Click on **Continue**.

The list of the software versions available on the PC is displayed next to the versions installed on the 2000 Platform.

9 Click on **Show Prev choice** or **Show Next Choice** to display the previous and next versions available.

10 Click on **Confirm** to start the upgrade of the selected software(s).
or
Click on **Confirm All Choices** to upgrade all versions.

NOTE

The software versions list does not always appear (cf previous versions) as well as the **Show Previous / Next Choice** buttons and the **Confirm/Continue** key. In this case, the upgrading starts automatically.

Upgrading begins. The 2000 Platform is automatically rebooted. Upgrading takes several minutes. At the end, the 2000 Platform is automatically restarted.

During the upgrade, the Testing indicator is lit in red. Do not push any button while the indicator is lit.

Upgrading from the boot

This method is used to make a complete reinstallation of the software versions.

1 Turn off the 2000 Platform using the **ON/OFF** button, keeping the equipment connected to the mains.

2 Insert the USB stick onto which the software versions are stored into one of the USB port of the Platform

3 Press simultaneously **SETUP + START/STOP** buttons

4 Maintaining the two buttons pressed, press **ON** button to start the 2000 Platform.

5 A menu is displayed, then the screen allows to select **Upgrade from from USB**

After a few seconds, a new page displays indicating that to continue the reboot, the validation key must be pressed.

Press the hard key .

The reboot starts automatically.

The Testing indicator will be lit in red during upgrade. Do not push any key or remove the USB memory stick until the lit turns off.

Once the upgrade is completed, the 2000 Platform will automatically tunrs on and display the **Home** page.

Install Option

This page allows to import the licence to get a software option.

Fig. 48 Example of a License file (.lic)

To import the license, you can either enter manually the licence code, given in the license file, (.lic file) or import this file with a USB memory stick connected to the 2000 Platform.

It is strongly recommended to perform the installation using the importation of Licence via a USB memory stick.

Enter Manually the Licence

1 In the **Home** page, click on **Expert Tools** > **Upgrades** > **Install Option** > **Enter License**

The edition keypad is displayed

2 Enter the challenge code of the option, set at the bottom of the file (see Figure 48 on page 88),

Fig. 49 Enter the Licence code

The license file can be opened via a word processing software such as Word...
The challenge code must be entered exactly as it is in the .lic file, paying attention to the lower-case and upper-case letters etc.

3 Press the **Enter** key to validate the code

Your software options will be installed

At the end of this sequence you will be asked to reboot the unit to apply the modifications, pushing the key Reboot . Confirm the reboot to restart the Platform.

Import the license from the USB memory stick

1 In the **Home** page, select the Settings icon

2 In the **System Settings page**, press **Expert Tools** > **Upgrades** > **Install Option** > **Import License**

If the USB memory stick is not already connected to the Platform, a message asking the memory stick insertion is displayed. Confirm it once the stick is connected.

3 In the File Explorer, select the USB stick, then the license file (.lic) to be imported,

4 Click on **Load** > **Confirm**

5 The challenge codes contained in this file will then be loaded automatically and your software options will be installed.

Fig. 50 License imported

6 At the end of this sequence you will be asked to reboot the unit to apply the modifications, pushing the key

.

7 Confirm the reboot

Locking the 2000 Platform

The 2000 Platform can be locked at any time:

1 In the **HOME** page, click on **Expert Tools**

2 Click on **Instrument Lock Out**

3 Confirm the 2000 Platform locking by clicking on **Confirm** (or use the **Cancel** key to cancel the process).

The numeric keypad is displayed

4 Entrer the password to lock the instrument: **4200**0 with the numeric keypad displayed.

Fig. 51 Password

5 Click on **Enter**

The 2000 Platform locking screen is displayed.

Fig. 52 Locking screen

Click on the **Notepad Message** key to add a message using the text edition.

Unlocking the 2000 Platform

1 Once the locking screen is displayed, click on the key **Unlock Instrument**.

2 Press confirm to confirm the Platform must be unlocked.

3 Enter the password **42000** using the numeric keypad displayed and validate.

The screen automatically displays the **HOME** page.

Returning an instrument

When returning an instrument, it is essential to indicate the following minimum information:

– the type and serial number of the instrument (on the identification label) and the configuration code (under the bar code)

– a description of the fault found on the instrument.

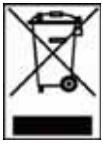
The returned instrument will then be repaired and calibrated.

Guarantee conditions

Any repair operation supervening within the guarantee period of the instrument will be carried out at the expense of JDSU. However, for any sub-assembly upon which work has been carried out otherwise than by JDSU Service Centers, the cost of a replacement sub-assembly will be invoiced.

Recycling Information

JDSU recommends that customers dispose of their instruments and peripherals in an environnmentally sound manner. Potential methods include reuse of parts or whole products and recycling of products components, and/or materials.



Waste Electrical and electronic Equipment (WEEE) Directive

In the European Union, this label indicates that this product should not be disposed of with household waste. Il should be deposited at an appropriate facility to enable recovery and recycling.

Troubleshooting

Interpreting alarms

Troubleshooting	Solution
Nothing happens when the **ON/OFF** key is pressed.	- Make sure that the battery is present or charged; or the mains adapter is properly connected (see "Connecting the mains adapter" on page 16).

Troubleshooting	Solution
Nothing happens on screen, whatever is the action done (menu key or hard key pressed...)	- The Platform must be rebooted. See “Resetting the 2000 Platform” on page 18.
You are using the 2000 Platform in the ordinary way when it suddenly switches off.	- Check the instrument is not configured to Auto off. See “Defining the Automatic shutdown of the 2000 Platform” on page 24). - Check the battery charge level. See “Charging the battery” on page 16.
The battery refuses to charge (the **Charge** indicator does not go on when the instrument is connected to the mains and is not operating).	- There is no battery in the instrument. - The temperature level of the equipment does not allow the battery charging for safety reasons. Wait the equipment cools down. - The battery needs to be changed. See “Changing the battery” on page 95.
When using the touchscreen, nothing happens	- The touchscreen needs to be calibrate. See “Touchscreen calibration” on page 94
Error message when USB has been disconencted	- The USB disconnection has not been done properly (see “USB memory stick disconnection” on page 60) - The data transfer was not completed when USB key was disconnected.
No beep is emitted when the USB memory stick is connected	- A previous USB memory stick has not been properly disconnected (see “USB memory stick disconnection” on page 60). - The USB memory stick is not detected by the 2000 Platform: use another memory stick, or another sotrage media; or transfer data via USB cable (see “Transferring files to a PC” on page 50).
Error message when upgrade via Ethernet is confirmed	- Check the Server Name is correctly entered (see “Installation from Ethernet” on page 86)
Error message when upgrade via USB key is confirmed	Check the USB key is correctly connected (see “USB memory stick connection” on page 60)
Error message when unlocking the instrument	- The password is not the correct one (see “Locking the 2000 Platform” on page 90).

Formating the USB memory stick onto the 2000 Platform

If the USB icon is displayed on the upper banner of the screen, when a USB memory stick is connected to the 2000 Platform, this may means the memory stick must be formatted.

If the stick needs to be formatted, proceed as follows:

1. Insert the memory stick into one of the USB port on the top of the 2000 Platform.
2. Press the **HOME** button
3. Validate the **Settings** icon to open the **System Settings** page.
4. On the right menu keys, successively select **Expert tools** > **Media utilities** > **Usbflash Format.**
5. Confirm your choice to actually format the USB memory stick.

As for any media formatting, please note that all data present on the USB memory stick will be irremediably lost.

Erase disk

To delete all the disk contents of the 2000 Platform:

1. On the Home page, Press twice the **Settings** icon to open the **System Settings** page
2. Press **Expert Tools** > **Media Utilities**,
3. Select **Erase Disk** to delete all the disk contents into the 2000 Platform.

   A confirmation must be validated before the deletion.

Touchscreen calibration

If you meet problems when using the touchscreen (example: pressing on an icon does not work correctly...) a calibration can be performed on the 2000 Platform touchscreen.

To calibrate the touchscreen, proceed as follows:

1. Push the **HOME** button
2. Press twice the **Settings** icon to open the **System Settings** page.
3. Press **Expert Tools** menu key
4. Press **Touchscreen Calibration** key

   A blue slightly smaller screen appears, displaying a little target on the left hand corner .
5. Click on this target (preferably with the touchscreen pen).
6. A new target appears then and again, for a total of 4 times, in order to click on all corners of the screen.

If all the targets are not correctly touched, the touchscreen cannot be used. Otherwise, the touchscreen may be used directly.

Fig. 53 Touchscreen calibration

Changing the battery

If you meet problems during the Platform functioning, or if the battery does not charge anymore when plugged, this may require the battery to be replaced.

CAUTION
Battery is not interchangeable in the field. It must be replaced exclusively for maintenance purpose.

Accessing to the damaged battery

To access the battery of the 2000 Platform, proceed as follows:

1. Switch off the instrument and disconnect the mains supply.
2. Turn the instrument face down on the work surface.
3. If any, remove the module installed (see “Removing a module” on page 14).
4. Remove the battery door
5. Pull the battery connector from its housing, to disconnect it from the base, taking care not to damage the connector into which it is plugged.

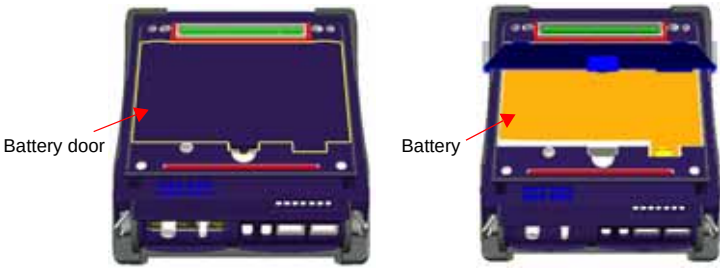


Fig. 54 Battery installation

Date and Time parameters will be lost when battery is diconnected.

Installing a new battery

1. Set the battery into the Platform
2. Connect the new battery in the connector of the 2000 Platform, in the right way using the location notch.

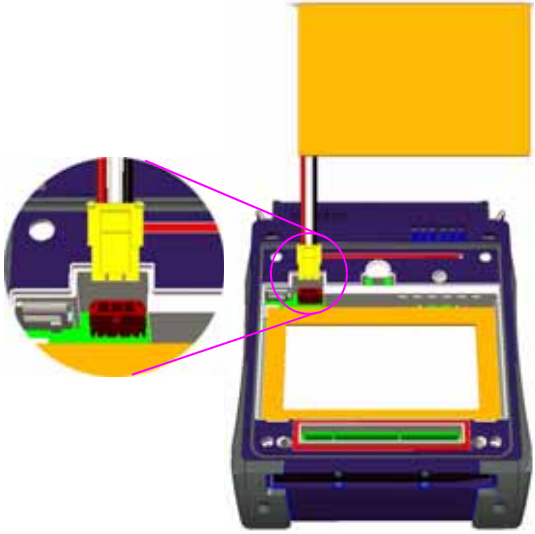


Fig. 55 Setting a new battery

When putting a battery back into its seating, make sure that its connector engages correctly with the one of the base and that the door is correctly closed.

Contact JDSU local Sales Service to get a new battery.

Do not use any battery other than the one supplied with the instrument, or supplied by JDSU.

General information on warranty

The warranties described herein shall apply to all commercially available JDSU products. Any additional or different warranties shall apply only if agreed to by JDSU in writing. These warranties are not transferable without the express written consent of JDSU.

Hardware Warranty

JDSU warrants that Hardware Product sold to customer shall, under normal use and service, be free from defects in materials and workmanship. Information regarding the specific warranty period for this product can be obtained by contacting your local JDSU Customer Service Representative, or at our web site ***www.jdsu.com***. If installation services have been ordered, the warranty period shall begin on the earlier of (1) completion of installation, or (2) thirty (30) days after shipment to customer. If Installation Services have not been ordered, the warranty period shall begin upon shipment to Customer. Hereafter these periods of time shall be collectively referred to as the Initial Warranty Period.

JDSU 's obligation and customer's sole remedy under this Hardware Warranty is limited to the repair or replacement, at Acterna's option, of the defective product. JDSU shall have no obligation to remedy any such defect if it can be shown: (a) that the Product was altered, repaired, or reworked by any party other than JDSU without JDSU's written consent; (b) that such defects were the result of customer's improper storage, mishandling, abuse, or misuse of Product; (c) that such defects were the result of customer's use of Product in conjunction with equipment electronically or mechanically incompatible or of an inferior quality; or (d) that the defect was the result of damage by fire, explosion, power failure, or any act of nature.

JDSU performed repairs shall be warranted from defective material and workmanship for a period of ninety (90) days, or until the end of the Initial Warranty Period, whichever is longer. Risk of loss or damage to Product returned to JDSU for repair or replacement shall be borne by customer until delivery to JDSU.

Upon delivery of such product, JDSU shall assume the risk of loss or damage until that time that the product being repaired or replaced is returned and delivered to customer. Customer shall pay all transportation costs for equipment or software shipped to JDSU for repair or replacement. JDSU shall pay all transportation costs associated with returning repaired or replaced product to customer.

Warranty disclaimer

For hardware and/or services furnished by JDSU, the foregoing warranties are in lieu of all other warrantees and conditions, express or implied. JDSU specifically disclaims all other warranties, either express or implied, on any hardware, documentation or services including but not limited to warranties relating to quality, performance, noninfringement, merchantability or fitness for a particular purpose, as well as those arising from any course of dealing, usage or trade practice. under no circumstances will JDSU be liable for any indirect or consequential damages related to breach of this warranty.

Index

A

About page 81

Accessories 75

Adapter
- specifications 71

Attenuation
- accuracy of measurement 26

B

Battery
- charging time 17
- specifications 70

Bluetooth
- pairing 53
- search devices 53
- specifications 73

C

Cleaning
- optical connectors 10
- plates, housings and screen 80

Connectors
- cleaning 81

CSV file 49

E

Environment 72

F

File
- sending by bluetooth 54
- storage media 59
- transfer
  - connection for 51
  - process 52

G

Guarantee conditions 92

H

HTML file 49

I

Indicators 5

J

JPG,JPEG file 50
Jumper reference 30

L

License
enter manually 89
import from USB 89
License file 49, 89

M

Memory
capacity 70
Module
fitting and removing 14
MSOR file 49

O

Optical connectors
precautions 10
OSA file 49
OTDR file 49

P

P5000 Microscope 36
PDF File 49
Platform
assembly 14
dimensions 71
indicators 5
locking 90
reset 18
switching off 18
switching on 17
troubleshooting 92
Power meter
alarm 28
attenuator compensation 27
connection 26
file management 32
measurement 31
reference 76
reference measurement 31
results 28
specifications 73
zero value 30
Power Meter file 49
Processing software
reference 77

R

Report 56
result 58

S

Scope
adding a profile 38
cladding 41
comment 40
core 41
feature 36
ferrule 41
freeze 40
load picture 43
luminosity & contrast 39
mosaic 42
removing a profile 38
report display 44
Screen
specifications 70
Screenshot 55
Services data 83
Software update
via Ethernet 86
via Internet 84
via USB 84
Storage media 59
abbreviations 61

T

Text file 49
Transfer interface
ethernet Mode 64
proxy config. 65

U

Unpacking the instrument 2
USB
connection 60
disconnection 60
upgrade via 84
User manual
reference 77

V

VFL
connection 26
emission of light 32
function 31
specifications 73

X

XML file 50

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E2000M02/UM/06-11/AE
Rev 00, 06-11
English

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